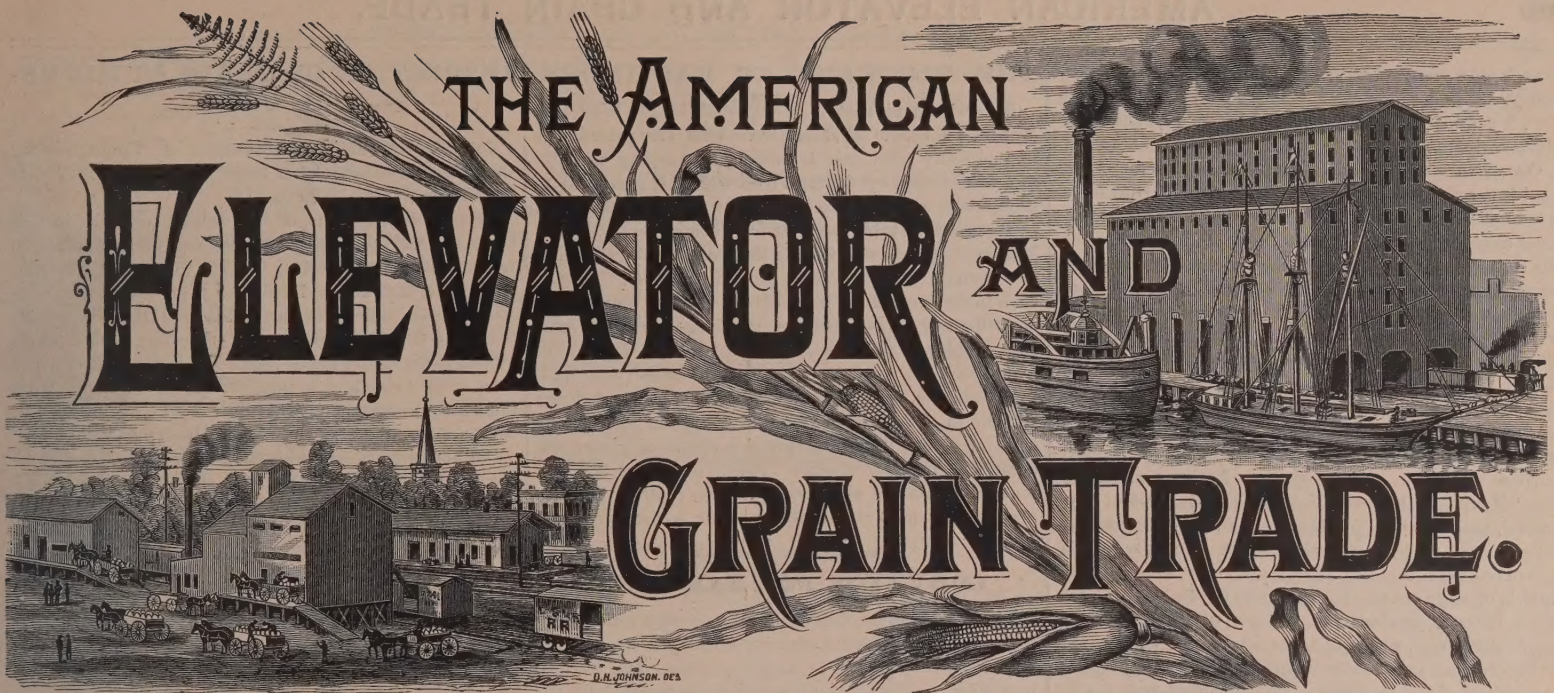




A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

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VOL. IX.

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No. 3.

SUBSCRIPTION PRICE,
ONE DOLLAR PER ANNUM.

THE LARGEST CLEANING ELEVATOR IN THE WORLD.

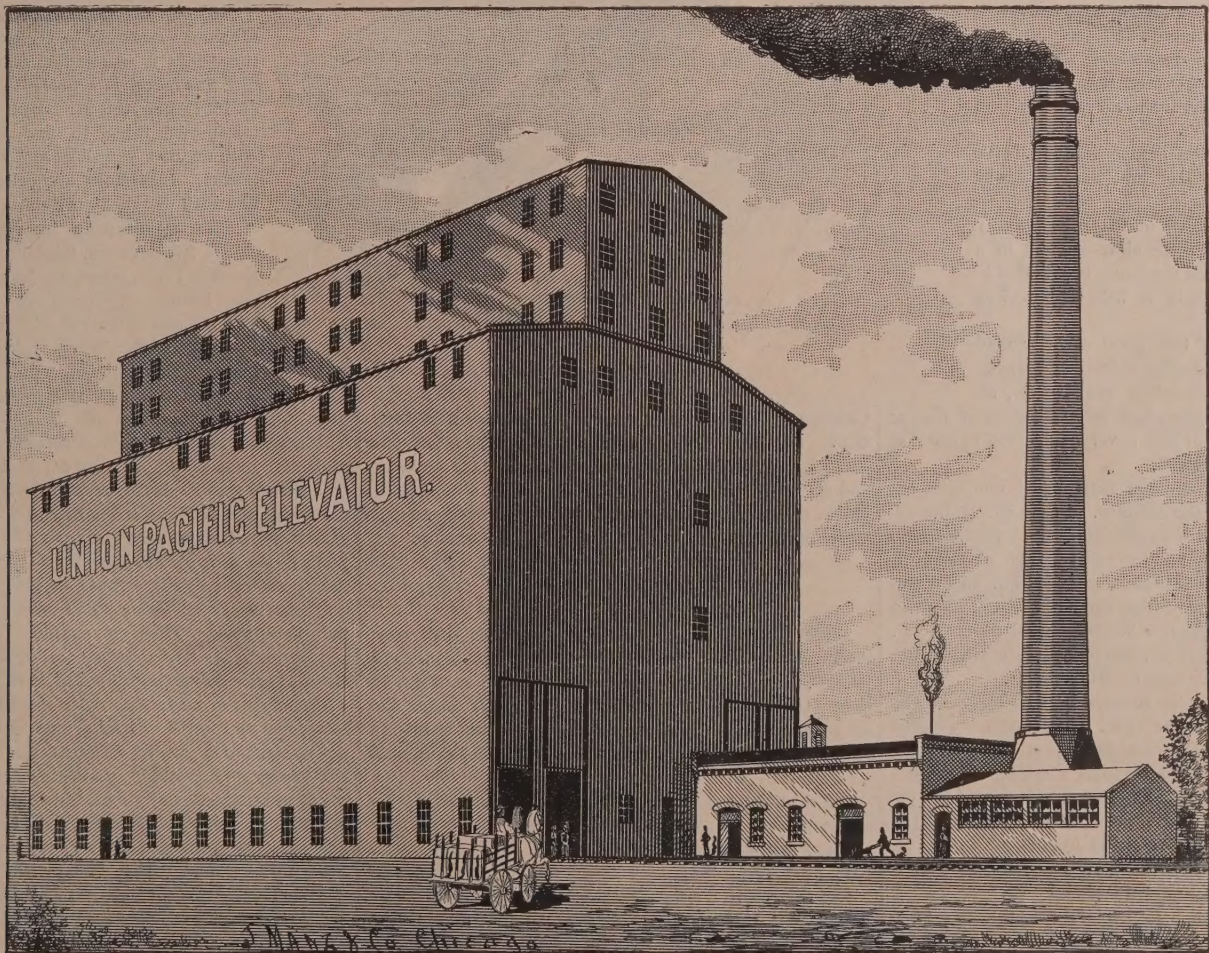
[From the *Modern Miller*, Kansas City, Mo.]

The new Union Pacific Elevator, 1,000,000 bushels' capacity, which has just been completed in this city, is

and can be seen from many miles away. The rapidity with which the work on this huge structure has progressed is almost marvelous. The superstructure was begun June 1, and the last square of corrugated sheeting was put on the 18th day of August, on which date the elevator began to receive grain—just 79 days. Over 600

usually followed. There are 182 bins in the house, the largest bins having a capacity of 11,000 bushels, and by the use of Simpson & Robinson's Patent Distributing Spouts, from any one of the legs half the bins can be filled.

Four standard gauge tracks run through the building, two on each side, making it easy to handle 300 cars in



F. H. PEAVEY & CO'S NEW ELEVATOR AT KANSAS CITY, MO.

said to be the largest cleaning elevator in the world. Its gigantic proportions are set off to splendid advantage above the smaller elevators and huge packing houses on the west bottoms midway between the Kansas City, Mo., and the Kansas City, Kan., bluffs. It is the first striking object to be descried in coming down the Kaw Valley,

men have been employed upon it at different times, the largest number at any one time being 300.

The elevator is 98x200 feet on the ground, and measures 165 feet to the top of cupola. The bins are 75 feet deep. While the ordinary elevator frame work was used, the bins are constructed on a somewhat different plan from that

and 200 cars out per day. It is safe to say that no other elevator ever built is more thoroughly equipped with all modern conveniences and safety appliances. There is throughout the building a complete system of electric lights, electric call bells, speaking tubes, dumb waiters, etc. A 5-inch water main runs to the cupola, with

branch pipes and 25 feet of hose on every floor. An Ellithorpe Air-brake Passenger Elevator, with a lift of 120 feet, is employed, being the highest lift of any passenger elevator used in the city.

One of the most essential features of an elevator of this kind is the cleaning machinery. The greatest care must be exercised in its selection, and an experienced judgment called into play. A great responsibility rests on the cleaners. Grain of all kinds and in all conditions is received, and these machines are expected to remove all dirt, dust, sticks, straws, light and shrunken kernels, as well as seeds, etc., and so make it a merchantable article. They are required to clean light or severe, as the condition of the grain demands, to be durable, to have large capacity, and when properly regulated to perform their work with little or no attention. Careful examination was made of all the different makes of machines for this purpose, and the merits of each fairly considered. The "Monitor" Dustless Warehouse and Elevator Separators, manufactured by Huntley, Cranson & Hammond, Silver Creek, N. Y., were selected. A line of these machines occupies the first floor, and they are certainly models of their class. B. F. Ryer, 63-65 South Canal street, Chicago, general Western agent of Huntley, Cranson & Hammond, negotiated the sale, and from him the writer obtained much valuable information as to the great capabilities of the machines. The manufacturers are to be congratulated, first, on building such splendid machines, and secondly, on having them selected for so prominent an elevator, and selected on their merits. Superintendent Oliver appears to be highly pleased with them.

The steam plant is, as Engineer Harrington says, "a beauty." It consists of an 175-horse power Reynolds-Corliss Engine, furnished by the Edw. P. Allis Company of Milwaukee; three Butman Steel Tubular Boilers, made by the Butman Furnace Company, Chicago, capacity 350-horse power; pumps, etc., and a Payne Engine for electric lighting. The engine and boiler house is 48x60 feet in diameter, built of brick. The smoke-stack, which is 150 feet high, is round and makes a handsome appearance. The round is considered better than the square stack, as no corners afford the air a chance to circulate.

The office adjoins the engine house on the side next to the elevator, and has been very tastefully fitted up.

It will require a crew of fifteen to twenty men constantly to run the elevator, and in a very busy season when the house is operated to its fullest capacity, forty to fifty men will be employed.

The construction of this great elevator may be considered the entering wedge of Peavey & Co. into the South-western grain trade, although they have for years been large handlers of Kansas wheat. That they will cut a very imposing figure has already been foreshadowed.

They have sent here some of their oldest and most experienced men to run the elevator. C. L. Oliver, the superintendent, has been with the firm for twelve years, having at different times had charge of their elevators at Sioux City, Iowa; Mankato and Jordan, Minn., and Washburn, Wis. He came here from the latter place, where he managed for several years a 900,000-bushel elevator. P. J. Harrington, the engineer, has been with Peavey & Co. since 1886, most of the time at Minneapolis.

The firm of SIMPSON & ROBINSON, who built the elevator, is well known to the trade. They have constructed about 400 elevators in the past eleven years, including the large line for Peavey & Co. through Washington, Oregon and Idaho. Their office is in Minneapolis, presided over by Mr. Simpson. D. A. Robinson takes personal charge of the elevator building, assisted by his cousin, H. R. Robinson, as book and timekeeper.

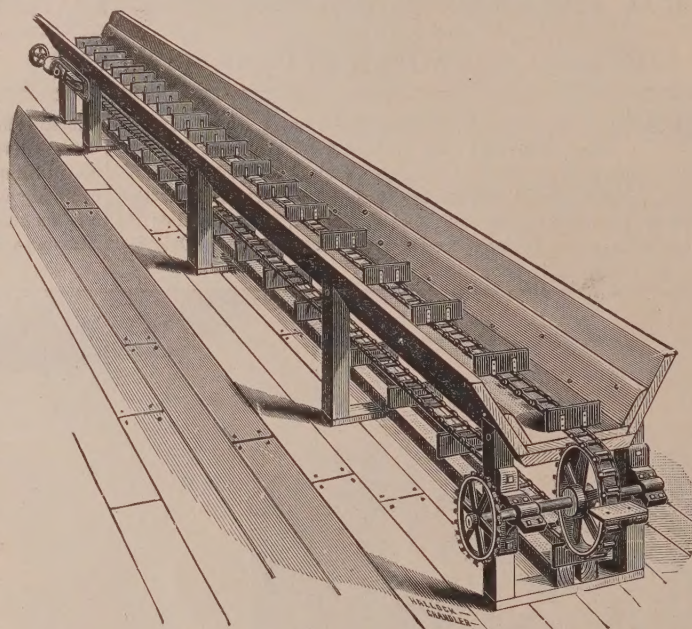
THERE is no question concerning the policy of renewing seed wheat from long distances. If we would give the crop additional power to resist adverse conditions we must renew the life of the seed. We do not believe renewals from the same county is sufficient. Dealers at railway stations can easily procure seed from greater distances, and it is more sure to produce a crop. Wheat that has been resown repeatedly in the same locality has a weaker vitality to encounter vicissitudes.—*Toledo Market Report.*

THE BLOCKADE AT BALTIMORE

We understand that it is reported in the West that there is a blockade at Baltimore. This last assertion is unqualifiedly false, but is entirely in keeping with instructions issued by a certain road which is presumed to cater to the wants of this port, to its agents in the West to divert all the traffic possible from coming to Baltimore. This may seem incredible, but the road, the locality and the name of the agent can be given if need be. Restrictions in delivery of grain at Calvert Station imposes another hardship upon the trade, as it is not only the most convenient yard in the city, but is the only eligible delivery point for track stuff that the Pennsylvania Railroad possesses. As the trade in this particular delivery is likely to be the chief reliance of the grain receiver, at least for a time, the necessity which makes this order imperative is most unfortunate. It is to be hoped that the railroad authorities will recognize the position and use every endeavor to remove this incubus.—*Baltimore Journal of Commerce.*

CONVEYOR FOR EAR CORN.

In many elevators, especially in those with crib attachment, a conveyor for ear corn is not so much a luxury as a necessity for dispatch in handling grain. Our illustration shows an Ear Corn Conveyor manufactured by the WEBSTER MANUFACTURING COMPANY, 195 S. Canal St.,



A CONVEYOR FOR EAR CORN.

Chicago. The cut is so plain as to require no explanation. The conveyor is furnished with either wood or iron flights. It can be ordered either with take-up boxes and sprocket wheels, or simply the chair or chair with flights attached. The manufacturers will be pleased to quote prices and give any other desired information.

SELLING WHEAT.

About the time that Daniel Drew began his Wall street career he was up in the country one time to visit some friends, and two farmers called upon him to decide a case. One had sold the other five bushels of wheat and proposed to measure it in a half-bushel and sweep the top of the measure with a stick. The other objected, and Uncle Daniel was asked to decide.

"Well, legally speaking, a bushel is only a bushel," he answered.

"And can the measure be swept off?"

"I think it can."

"With what?"

"Well, if I was selling wheat I should probably use half the head of a flour barrel."

"Which edge of it?"

"Gentlemen, that is the point I cannot now decide on," sighed the old man. "If I was selling to a widow or preacher, I am certain that I should sweep the measure with a straight edge, but if I was selling to a man who pastures his cows on the road and his pigs in his neighbor's corn, I'm afraid I should use the circular side, and scoop a little to boot."—*Glasgow Reporter*

INSPECTION OF GRAIN AT MINNEAPOLIS.

John Sheley, chief grain inspector at Minneapolis for the state, has issued a letter bearing upon the work of his department, in which he says:

"Fully three-fourths of the wheat received in this market is sold by sample. Of the past crop Minneapolis received 43,500,000 bushels; Duluth, 18,610,000; Chicago, 18,750,000; Milwaukee, 7,420,000. This shows Minneapolis to be the largest primary wheat market in the world. What is it that has made it such? It is the sample market, milling demand and prices paid. On most of the crops of 1888, after deducting freight, the prices of wheat were higher at Minneapolis than at New York City. This is a strange state of affairs, but nevertheless true.

"Minneapolis is not only the largest wheat market in the country, but is also the most difficult of any for an inspector, on account of the different varieties of wheat received and the dockage system, the latter being a double tax on the judgment of the inspector, as he must not only fix the grade, but also the amount of dirt in each bushel.

"Fully nine-tenths of our wheat is received in the dirt. When the dockage is under 3 pounds per bushel, it is generally fixed on the inspector's judgment, which constant practice has made nearly perfect.

"If the wheat shows 3 pounds or over per bushel, probe samples are taken from different parts of the car, of which 60 are weighed, which represents a bushel of wheat, and passed through a No. 10 sieve. A cloth is placed under the sieve to show the amount of shrunken wheat taken out, which must be allowed for, and also large buckwheat, which will not pass through the sieve.

"At Duluth on the crop of 1885 and 1886 the writer graded nearly 90 per cent. of the wheat received No. 1 hard, with an average dockage of 1¼ pounds per bushel.

"Give us the same material to work on and the same results can be accomplished again. In those days it was seldom that over 3 pounds of dirt was found in a bushel. But with the crop of 1887 came the dirt, and now it is not an uncommon thing to find whole train loads with the dirt running from 2 to 15 pounds per bushel. Inspectors are called upon to finish the work begun by threshing machines.

"The Minneapolis inspection district now covers 23 elevators, 23 mills and 17 railroad inspection yards, which are from 1 to 7 miles from the Chamber of Commerce in all directions. The receipts often run 500 to 700 cars per day. Inspectors often have from 75 to 150 cars to inspect during the morning hours. They are expected to report their grades at the office by

11 o'clock A. M., so that the grain can be placed on 'Change and sold on the day of arrival. A disposition must be given of the cars by 4 o'clock P. M., otherwise the railroad people charge demurrage on cars. This calls for prompt, active work on the part of the inspectors, and I do not claim that every car is graded and docked just exactly as it should be, but I do say that between re-inspections and the sample market, shippers get all they are entitled to. Commission men, as a rule, are good judges of grain. They are anxious for country trade, and try to do the best they can for their customers, and are not backward about asking all that buyers will stand.

"Some do not understand why Duluth receipts show a larger per cent. of No. 1 hard than Minneapolis. This can be accounted for in different ways. For example, No. 1 hard is the contract grade at Duluth and No. 1 hard wheat must be shipped to fill sales. No. 1 Northern is the contract grade at Minneapolis. The bulk of the Scotch Fife is raised in the Red River Valley, a section of country tributary to Duluth. Large sections of country tributary to Minneapolis do not try to raise Fife wheat. Some fault was found last fall, because light colored Fife, or wheat raised on rolling and timber lands, did not grade No. 1 hard. Our rules say that No. 1 hard shall be mostly hard Scotch Fife. Light-colored wheat is not hard wheat, even though it be Scotch Fife, which any one can demonstrate to his own satisfaction by cutting the kernel in two; it will be noticed that the light colored is white or nearly all starch, while the amber-colored kernel is dark, flinty and largely gluten—a much stronger wheat.

"Wheat is liable to be light colored when the berry and

yield is large, say from 20 to 35 bushels per acre. When the yield is light the berry is generally hard.

"Many cars are received with poor wheat on bottom, sides and ends. This class of work ought to be stopped. We are compelled to handle cases of this kind without gloves, otherwise there would be no end of it.

"The car is first examined by the state inspector, then the commission man takes an average sample to sell the car by, after which the car is thoroughly examined by the purchaser and the grain must be equal to the sample sold. If it is found otherwise the sale is canceled, which, on a declining market, is apt to cause the shipper loss through his own carelessness.

"The lower the grade the lighter is the dockage. There is no dockage placed on rejected wheat, although commission men sometimes allow a dockage in order to help sell it.

"Inspectors figure on grading wheat to correspond with the milling value in it, but there are cases where by grading the wheat rejected and selling it by sample, at gross weight, it will net the shipper more money than grading it No. 2 or 3 with a heavy dockage.

"Wheat that is shrunken and light in weight, but otherwise sound, can generally be raised a grade by cleaning, but the difference in dockage will more than make up for the difference in price between the two grades. Wheat containing a large per cent. of cockle, oats, barley or smut is graded down. Shippers ought to meet inspectors half way by cleaning the above class of grain before shipping, and especially smutty wheat, which should be cleaned on the farm. Every time smutty wheat is handled it deteriorates in value, and when the wheat is dropped 60 or 70 feet into an elevator bin the balls are pulverized. The smut adheres to the berry, causing a loss in value.

"Large quantities of stack-burnt wheat are received in this market from the Southwest. The damage is caused by cutting wheat with header machines, and piling it up while green or damp.

"Shippers cannot be too careful about looking cars over for leaks. Many cars are received with a leakage running from 5 to 25 bushels per car.

"Some parties seem to think that our fees for inspection ought to be reduced, others are in doubt as to whether state inspection ought to be continued. The fees collected on Minnesota grain do not pay half the expenses of this district. Our receipts of grain are largely from North and South Dakota, Iowa, Kansas and Nebraska.

"As compared with other markets, the charges for inspection per car are as follows: Chicago, 30 cents; Philadelphia, 30 cents; New Orleans, 75 cents; St. Louis, 40 cents; Toledo, 30 cents; New York, 30 cents; Cincinnati, 30 cents; Milwaukee, 25 cents, and Minneapolis, 25 cents.

"Grain must be inspected at the terminal points, and it is simply a question as to whether the work can be done best by the state or Board of Trade inspectors."

NO MORE GRAIN FOR BALLAST.

For some time there has been something like an earthquake in the foreign grain market. American prices have been too high, and England has looked to the Orient for full supplies of wheat and corn. Mr. John Whitmore, general traffic manager of the Fitchburg Railroad, said yesterday: "It is a shame that we Americans should act as we do in foreign trade. As soon as England wants grain, up goes the price in Chicago. Then England goes to Russia. On the Black Sea 400 steamships have just now been loaded with wheat for England. The situation is rather remarkable when, as has been the case, a vessel has had to load grain in Baltimore and return with the same cargo as ballast. It isn't as though we had only one market for our grain. It isn't as though they had only one market from which to buy. It is as if you or I were in the dry goods business and tried to put up prices in spite of competition. You or I couldn't do it. If we should be called foolish, so ought the Chicago speculators who have thus raised the price of grain."

Mr. W. H. Lincoln, agent of the Leyland line of steamers, said that freights had been growing better with in the last few days, and the situation was improving. The reason of the existing conditions he gave as the speculative price of grain on this side, combined with the poor quality of the American crop and the fine weather and good returns of new wheat in England.

"The situation is improving, however," he added, "and we won't think of taking grain for ballast any more."—*Boston Herald.*

THE CALDWELL CUT FLIGHT CONVEYOR.

This conveyor has been successfully used in removing sand, dirt and grit from cotton seed. This is very desirable before the seed goes into storage or is reginned. The sand in the seed dulls the saws in the gins, and foreign substances, such as cartridges, nails, and pieces of iron, often strike fire in the gin, unless removed. This can be done in some degree by the use of the ordinary Caldwell Conveyor, and lining the bottom of the box with perforated metal (Fig. 2).

The better plan is to use the Cut Flight Conveyor, as



FIG. 1.

shown, making box having the curved lining wide enough to extend near the top of the box, and setting out 1 to 2 inches from side of box, to allow the sand and dirt to drop through the perforations. This plan gives more working surface for cotton seed to rub over. When the

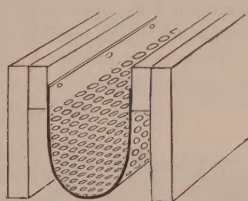


FIG. 2.

sand and dirt from the seed would drop where not wanted, the box is built with perforated lining, and a supplemental conveyor of small size, 4 inches in diameter. The manufacturers are MESSRS. H. W. CALDWELL & SON, 131 and 133 W. Washington St., Chicago, Ill.

INFECTED SEED CORN.

An entomologist writing in *Country Gentleman* says, a correspondent from Coxsackie, N. Y., has sent me some seed corn, purchased by him from a well known and leading seed firm in New York City, which is badly infested with weevil. I find it to be the species known as the "rice weevil," or *Calandra oryzae* (Linn.)—a dangerous and destructive pest, often found in seed stores, in milk and granaries. He writes that a neighbor had also purchased a half bushel of seed corn from the same house this spring, over two-thirds of which have been destroyed by the same insect.

My correspondent, although a careful observer of injurious insects and their habits, had never met with this beetle before, and is therefore justly indignant that he should have received it from a reputable seed firm in this manner, and that he and his neighbor should be exposed to the risk of having it introduced, and multiplied and naturalized among them.

The sale of the corn, while so badly infested, by the firm (I refrain from giving its name) seems to me to be very culpable. Of course, at the time of sale the infestation was not visible to ordinary observation, as the eggs of the beetle had been deposited on the kernels, and the minute larvæ had entered through holes too small to be seen. But had a proper examination been made of the corn by breaking or cutting into it, the full-grown larvæ or pupæ would have been found within, nearly ready to change into the perfect insect and eat their way outward as they have since done.

If such an examination disclosed an abundant presence of the insect, it would of course be unsuitable and unfit for seed, and should at once have been consigned to the mill for feeding purposes. If but slightly infested, and not materially injured, further injury or danger could have been averted by subjecting it in a tightly covered barrel or bin to the vapor of bisulphide of carbon—the liquid needing only to be placed in an open vessel on the top of the corn, and in its volatilization, falling down from its weight, and destroying all the animal life present.

FARMERS are not all fools. According to the *Times* of Beemer, Neb., a prosperous farmer lives near that place who doesn't believe that the farmers' alliance will be the means of securing him one cent per bushel more for his corn, or make his hogs any fatter.

GRAIN DOWN THE MISSISSIPPI.

To no instrumentality, says the *St. Louis Grocer*, is the advancement of our city to the position of a great grain market for export due in larger measure than to the "Barge Line," whose constant effort during all the years of its existence has been to center here such receipts of grain as would attract and hold the business done with foreign ports by enterprising shippers of the great interior, some of whom, we are proud to say, are among our foremost merchants and citizens.

Some fair idea of the growth of the export business done by this company may be given by stating the fact that while in 1870 the bulk grain carried on the river was less than 500,000 bushels, in 1889 the quantity so carried exceeded 15,000,000 bushels, or about one-fifth the entire corn exports of the United States.

As may easily be imagined, the vessels necessary for handling so large a bulk must constitute a fleet of no mean proportions. The Barge Company owns and operates ten of the most powerful steam towboats in the world, and has nearly 100 large barges, built expressly for the transportation of bulk grain. A visit to these vessels would well repay any one who has never seen them loading at our elevators.

The company has a paid-up capital of \$2,000,000, and in addition to the boats and barges already mentioned, has large stationary elevators at New Orleans, and at Belmont, Mo., and several steam transfer floating elevators which serve to rapidly empty the barges into the ocean vessels at New Orleans. These facilities give them a control of the transportation of grain on the river, and enable them to successfully compete with the railways which carry to tide-water on the Atlantic coast.

Beside the bulk grain thus carried, this line freights large quantities of flour, sacked grain, lard, bagging and other Western produce at rates which make it no less a favorite route than a potent factor in determining the price of transportation, not only on the river, but upon competing railway routes as well.

CANAL CONVENTION.

Capt. M. De Puy, president of the Canal and Harbor Protection Union, has issued from Albany an open letter to the people of the state of New York, in which he states that there is every indication to show that the state canal convention to be held at Buffalo on Sept. 25 will be largely attended, and that canal protection will be discussed as well as canal improvements. The movement is strictly non-political.

Among the measures which will be discussed are the following: To bottom out the Erie and Oswego canals to their original depth, and to speedily complete the lengthening of locks; to cut the points back ten or twenty feet at several short bends in the Erie Canal, that double boats may meet and pass; to deepen the Champlain Canal about one foot; to effectually break up the "railroad-grain elevator combines" in New York and Buffalo, which are actually discriminating against the state and port of New York to the extent of two cents a bushel on grain, and the sole object is to cripple the Erie Canal and drive individual enterprise from the lakes.

At Philadelphia, Baltimore and Newport News the cost of elevating grain does not exceed one eighth of one cent a bushel, while at Buffalo the elevator gets (including steam shovel) nine eighths. And the same grain when it gets to New York is forced to contribute to the elevators another nine-eighths.

To provide for free wharves at every port in the state of New York. The wharfage rings in the cities of New York and Brooklyn annually bleed commerce to the extent of about \$3,000,000, and it has recently been proven that nearly all the money was misappropriated by politicians.

STORAGE IN CANADA.

The cities of Kingston and Quebec have awakened to the necessity of providing storage accommodation in order that they may secure a share of the grain and flour trade. Kingston has only to build the necessary elevators in order to obtain the grain which the owners have now no alternative but to store at Ogdensburg. The limestone city must, however, make up its mind to provide the required facilities at its own cost. The idea that the government should undertake the work at the expense of the country is absurd. As regards Quebec, the Quebec Corn Exchange is urging traders to provide the necessary accommodation.—*Toronto Globe.*

WILL NOT DELIVER GRAIN AT DULUTH.

Recent advices from Duluth state that General Manager Mohler of the Great Northern Road has issued a circular ordering that no cars of the Great Northern Road shall be allowed off its own tracks or terminals. This order discriminates against Duluth and in favor of West Superior in the matter of delivering grain. The Great Northern elevators are all located on the Superior side, and the grain men here are kicking because they think that the circular was issued in order to divert the grain to the Great Northern elevators. W. C. Farrington, the local agent of the Great Northern Company, was seen regarding the matter and said:

"The order is a just one, as the company cannot be expected to put itself to the inconvenience of waiting for empty wheat cars while the road that is doing the elevator switching is taking its own time in returning them. The laws cannot compel the company to deliver to elevators in Duluth, notwithstanding that it places Duluth on its waybills. The company will bring wheat cars into Duluth, but will not allow them off its own tracks, which do not run to a single elevator."

Mr. Farrington quoted a case or two in Chicago in support of his assertions, viz.: That both the Union Pacific and Burlington routes have no facilities at Chicago elevators, and successfully defied the authorities to compel them to deliver at Chicago elevators. George Rupley, treasurer and superintendent of two elevator companies at Duluth, had the following to say regarding the circular:

"The plea that the Great Northern cannot get into the elevators is a poor one. If it really wants to come in the elevators will allow it to lay tracks on their property. It can be easily done, and with little expense. The Minneapolis people and the Sawyer people are, I know, affected by the order just as our elevators are. Last year it was simply a discrimination against Duluth. This year they had to take a different tack in order to help Superior. I don't think there would be much difficulty, however, for them to arrange on the quiet for the accommodation of the Sawyer people after they got the scheme well under way. The fact is, they want to run all the wheat on their line into Superior. They cannot begin to handle all the wheat at Superior that will come to the head of the lakes over their line. The wheat is not shipped out of the elevators on their orders, but on those of the owners."

The Northern Pacific Road has hitherto handled all Great Northern cars which were to be taken to Duluth elevators. Division Superintendent Green when catechised delivered himself as follows:

"The Northern Pacific has never done otherwise with Great Northern cars than with their own. There is no discrimination, and all cars receive the best dispatch we can give. The Great Northern does not want to deliver in Duluth. That is the situation."

CANADIAN BARLEY EXPERIMENTS.

It is well that, thanks to the enterprise of the Dominion Department of Agriculture, we are likely to have the possibilities of barley culture in this country pretty thoroughly tested the present season. But there is reason to believe that many over-sanguine people have their expectations raised to a pitch that renders disappointment certain.

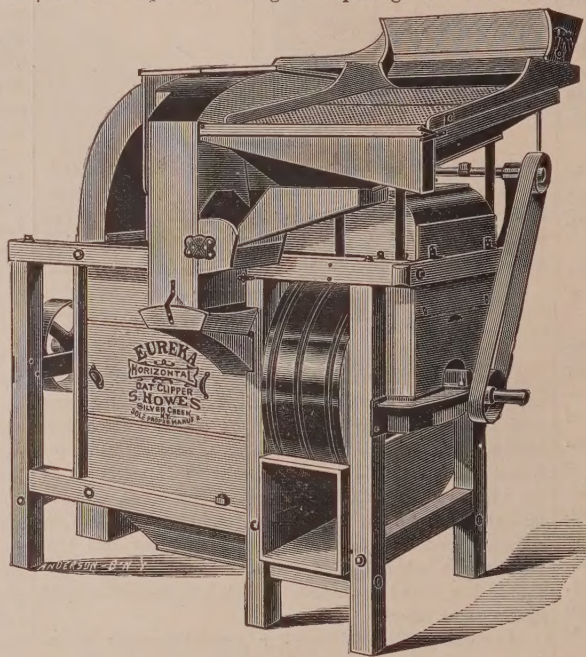
The two-rowed barley, to do its best, requires a strong, rich soil, and a moist climate. Both of these conditions are difficult, if not impossible, to be secured in Canada. Our farmers have no idea of the amount of manuring which is thought necessary for this and other crops in the old country.

It is said the demand for barley is on the decline in the markets of the world, although the production of ale and beer is not lessening. But brewers are discovering other means of putting the desired flavor into these drinks, and it may be that, before very long, barley will take rank with other grains on the basis of its food, rather than its drink value. It will be better for the agricultural interest when this becomes the case, although perhaps it will be the worse for beer drinkers, as they will lose the small amount of nutriment they formerly got out of their favorite beverage. But it is always better that any product should stand on a real rather than a fictitious value.—*Rural Canadian*.

THE EUREKA OAT CLIPPER.

We need not argue with our readers in this connection the value of oat clipping machines as money makers. An oat clipper that will do its work rapidly, properly and without waste is a source of profit which most grain men appreciate. Among the numerous machines before the public is the well-known Eureka Oat Clipper, a cut of which is given on this page.

The machine is very compactly built, in operating mechanism is extremely simple, runs very lightly and has very great capacity. In solidity of construction, perfection of fitting and finish, and high qualities of materials employed, it is without equal. Some customers have used same for a period of three or four years, without cost for repairs. This should be sufficient guaranty of their durability. Its ventilation is perfect, rendering the machine dustless, and all impurities are immediately removed as rapidly as they become loosened from the grain. In the operation of clipping, hulling of oats does not occur. The case is of iron, hardened, having depressed longitudinal openings, cast upon chills, thus insuring the extreme of durability; is made in sections, any one or more of which may be removed without taking down the machine. The cylinder has arms upon which are adjustable beaters, thus placing the degree of treatment entirely under control of the operator. These arms or beaters aid in forcing the loosened impurities through the openings in the case and



THE EUREKA OAT CLIPPER.

into the strong suction of the exhaust fan, by which they are delivered away from the machine.

The separators on clippers are fully under control of the operator (regulated by valves), so that as few or many light oats may be removed as is desired. On all sizes four distinct separations are made. The material is first subjected to a screening or sieving operation, as it is spouted or otherwise delivered to the machine, to remove sticks, stones, straws, or other large or foul material. As it passes from the shoe or screen, it enters the cylinder through a strong current of air, which removes light impurities such as chaff, shrunken grain, dust, etc. While going through the process of clipping, a strong current of air is being continually forced through the case, carrying the impurities, which are loosened by the clipping operation, out through the openings in the case. Finally, as the finished material leaves the machine, it passes out through a current of air, which removes all traces of loose impurities.

The manufacturer of the Eureka, S. HOWES, Silver Creek, N. Y., says: "In all cases we advise the use of the shoe as it insures a perfectly even feed, a matter of much importance where regularity of work is desired. Connected with the shoe is our perfected automatic feed, which insures entire and perfect regularity in supplying the stock to the machine for operating upon. Having a preliminary separation, a large amount of light oats, filth, dust, chaff, etc., may be removed before undergoing the process of clipping. We build this machine in seven regular sizes, capacities ranging from 50 bushels per hour up to 500 bushels per hour. These capacities are in all cases

fully guaranteed. In many instances the rated capacities have been greatly exceeded with perfectly satisfactory results to the user."

WHEAT AND SILVER.

We give herewith a few opinions regarding the influence of the market value of silver upon the market value of wheat:

The rise in silver to \$1.21 sent the Europeans in to cover their short sales of wheat in this country, and put the market 3 cents higher. The appreciation of silver has caused a general advance in our food products on that side, silver being the money they use in buying from India and other countries. The value of the rupee and rouble is the controlling factor. The more they can depreciate silver the cheaper they make the cost of farm products.—*Baltimore Journal of Commerce*.

It is claimed that the advance in silver is the main cause of the rising American quotations, and certainly such would seem to be true in the case of railway shares which, under ordinary circumstances, would be falling heavily in value, seeing the crops are estimated to be 20,000,000 tons lighter than last year. Another anomaly is that wheat which was supposed to be the article most likely to be strongly affected by the new silver law, has so far advanced least of any. Oats have risen 100 per cent., and maize 80 per cent., while wheat since June has only risen 20 per cent. One effect of the rise in silver has been to lower the value of the cereal on the Indian and Russian exchanges, and while a continuance of the export movement has been rendered possible, a direct discouragement to the grower is thus brought actively into play.—*Liverpool Corn Trade News*.

Paul Mudrony, the Hungarian correspondent of the *Farm Implement News*, in a communication to that journal says: "Your great question of the remonetization of silver is creating a great deal of interest among our farmers. The organ of our national agricultural society says to day in its leader, written by the director of the society, Mr. Ordody: 'It is a fact that if we accept the gold standard and diminish in this way our legal tenders, and the Americans accept the silver standard, in this case they will decidedly beat us in the foreign competition, and we will scarcely be able to go abroad with our products. Why does America accept the silver value? It is easy to conceive. Only because she may counterbalance the Indian wheat import, which is purely promoted by the cheap price of silver. If, therefore, America makes silver legal tender, in this case the price of silver will enormously rise. The Indian wheat will lose its capacity to compete, and America will dominate anew; but on the other hand, having a gold and silver standard, she promotes by it the export of her raw products. Whereas, we shall,

in consequence of the pure gold value, as the Hungarian proverb says, be 'drowned in our own fat'; therefore, we hold the bimetallic gold and silver standard preferable to the single gold standard.' Such are the current opinions about the value question in farmers' circles."

The rise in silver has added very largely to the cost of Indian wheat, and the *Mail and Express* says the friends of silver have demonstrated the correctness of one of their tenets which the advocates of a gold standard have always contradicted. They cannot help seeing now that the United States, which is the largest silver producing nation in the world, has for years been playing into the hands of Great Britain, which, being the largest silver buyer in the world, has had a very strong interest in making gold as dear as possible and holding onto as much of it as the laws of trade would permit. As long as we were buying 2,000,000 ounces a month, the treasury was perforce a bear on gold. It was using every effort to get it as cheap as possible, and in this attempt it had the cordial co-operation of Great Britain. Now that we begin to buy more than twice as much, the position is changed, and Great Britain is a competitor at a great disadvantage. For years the American farmer has been selling his wheat for gold in competition with Indian wheat, which was bought with silver, and so the British importer bought silver with his gold and exchanged for Indian wheat, until the price rose to a point at which it became cheaper to pay for American wheat with gold. Now that silver has risen 15 per cent.—to be exact, silver has risen 16¼ cents above the highest price of last year,

and has regained in seven months what it lost in seven years—the price of Indian wheat is advanced just that much, and is handicapped by that percentage in competition with American wheat. A very considerable percentage of the increase in the price of wheat is due not to the fears of a short crop, but to the fact that the Englishman finds Indian wheat virtually advanced more than half way to a parity with American grain.

When silver rises to par with gold in the markets of this country and of the world, what next? That is what many are thinking about. At present the price of silver is going up faster here than abroad, but still no silver is being imported. The rise in this metal thus far has put up the price of all food products, particularly grain, and has added 20 cents a bushel to the cost of Indian and Russian wheat in England by enhancing to that extent the silver which is paid for it. No stronger evidence of the intrinsic importance of silver as a factor of trade and finance could be desired by its most devoted advocates than is furnished by the changes already brought about through the enactment of this one American silver law.—*Chicago Journal*.

The rise in the cost of wheat keeps pace with the upward movement in the price of silver. Since the passage of the Silver Bill the metal has risen 14 cents per ounce, and wheat has gone up fully 16 cents per bushel. The one is given as the chief cause of the other, inasmuch as the highest cost of the rupee has been equivalent to so much advance in the price of Indian wheat, the comparative cheapness of which has heretofore held down the export value of the domestic grain.—*Philadelphia Record*.

There is disappointment of the Russian harvest yield in some districts and satisfaction in others. Moreover, there are efforts being made to ship promptly this autumn, but the general position of the wheat markets in Europe and the established advance in the value of silver have given to Russia and other sellers a confidence to hold wheat, or only to sell it at about present rates. Indian wheat shippers entertain similar views, and it may be said the visible supply of cheap wheat is very small indeed.—*London Miller*.

CLEAN BILLS OF LADING.

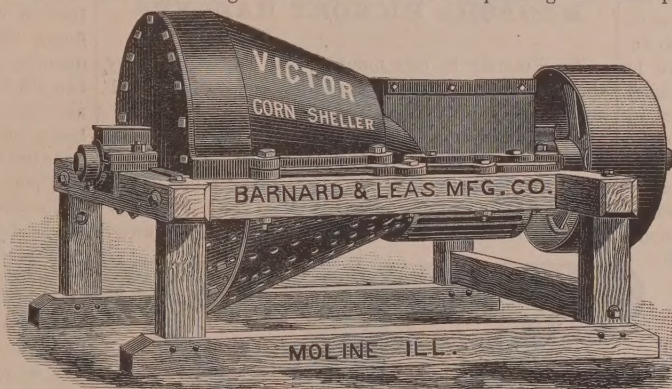
Edward S. Richards of Chicago, who has been connected with the grain trade for a number of years, recently wrote a letter in regard to the new uniform bills of lading, in which he said: In the present form of bills of lading used in the transportation of bulk grain words conveying an ambiguity as to the quantity for which the carrier is responsible are used. This has been one of the most fruitful causes of trouble between owners and carriers. It is an established fact, and not open to any dispute whatever, that the initial weights of bulk grain that has been accurately weighed in hopper scales at a single draft and loaded into new cars that have been sealed before starting have fallen short at destination over 3,000 pounds per car, and that the terminal weights were reported back as having been unloaded into an elevator from the same car which arrived in good order with the original seals unbroken. The fact can also be established that the average shortage on bulk grain shipments, where shortages are known and reported, is about four bushels per car. It is also an established fact that certain of the railroads carrying bulk grain either own or are interested pecuniarily in the elevators to which they deliver their grain and derive benefits from any overplus in their stocks of grain, and that such grain has been sold for the benefit of such elevators and railroad officials. It is also an established fact that the master of a vessel is required to give a clean bill of lading for grain delivered to him and for which he is held responsible to the fullest extent.

Why should a railroad company, which is also a common carrier, be relieved in any degree from a like responsibility? A freight agent will give a clean bill of lading for a given quantity of flour or other merchandise, and

why should he not comply with existing laws and give a like clean bill of lading for grain shipments? The owner of the property is legally and morally entitled to as much protection in the one case as the other. A careful comparison between initial and terminal weights on bulk grain where it has been honestly weighed at each end of the line is thirty pounds per car. I would respectfully suggest that Sec. 4 of proposed amendment be so changed as to cover the contingency above referred to.

THE VICTOR CORN SHELLER AND BARNARD'S DOUBLE SCREEN CORN CLEANER.

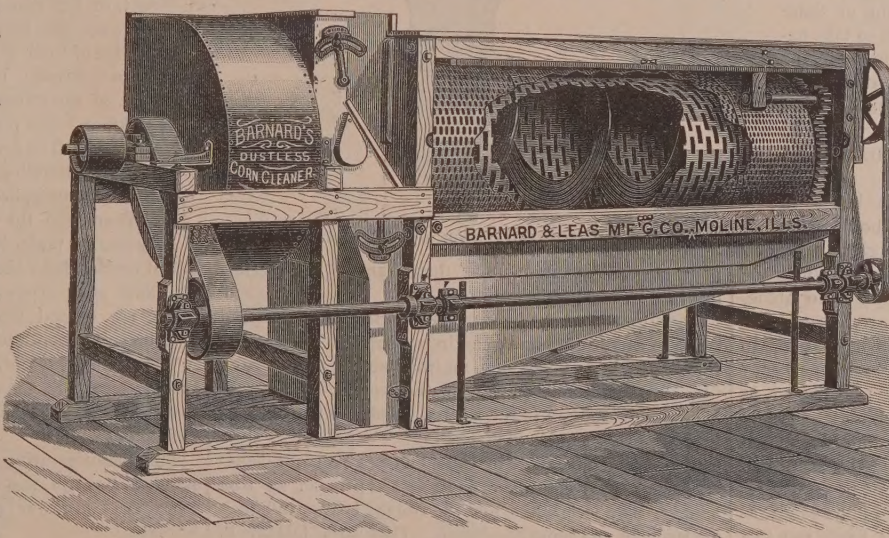
The two cuts given below show the Victor Corn Sheller and Barnard's Double Screen Dustless Corn Cleaner. These two machines, both familiarly known to the trade, comprise a complete corn outfit for an elevator, the one machine shelling the corn and the other separating the



VICTOR CORN SHELLER.

cobs from the corn and cleaning the latter for market.

In the Victor Sheller the teeth and projections of the shelling surfaces are chilled, thus giving greater durability. It has a new patent feeder, which adjusts itself automatically, allowing the machine to be run either way,



BARNARD'S DOUBLE SCREEN DUSTLESS CORN CLEANER.

and thus avoids crossing the belt. It can be adjusted by loosening collar on one end of the shaft, and pulley on the other end, and moving the shaft either forward or backward, as the condition of the corn may require. The machine is very substantially built, and has but two journals, and we guarantee it to be the very best sheller in the market. It will not clog, and can be stopped and started, no matter how much corn may be in the hopper or dump, and can be set in any manner most convenient. They are very strongly built, and of the best material. The Nos. 3 and 4 have an extra bearing outside the pulley, which renders them more substantial, and greatly adds to their durability. This machine is made to shell only. The separating of the cobs and cleaning of the corn is done by Barnard's Dustless Corn Cleaner, described below.

Barnard's Improved Double Screen Dustless Corn Cleaner is a machine which has been greatly improved from time to time, until now it is offered to the public as a perfect machine of its kind. The screen as now made consists of two screens, one within the other. The inside

screen has large perforations, which allow the corn and smaller pieces of cobs to drop through into the outer screen. It is also provided with a heavy sheet iron conveyor, attached to the inner surface, which carries the large pieces of cobs at once to the end of the screen, and drops them out. This conveyor also keeps the cobs and corn stirred up, thus allowing the corn chance to drop through freely into the outer screen, none being carried over with the cobs. The space between the screens is amply sufficient to prevent any clogging.

The outside screen has finer holes, oval in shape, and the smaller pieces of broken cobs and ends are carried out over the end, while the corn all drops through on the shaker below. This shaker, which is run with a yoked eccentric, and side motion, carries the shelled corn in a broad, thin stream into a broad separating trunk, through which there is a strong suction blast of air from the fan, which permeates thoroughly the stream of corn and carries the small pieces of cobs, silks, husks, etc., that may have passed through the screen, up into the fan and out

of doors, or into the dust room.

The corn upon leaving the hopper, before entering the screen, is exposed to a strong suction of air which carries dust, chaff, silks and other light stuff into the fan and out of doors. This is a new feature, and great improvement over the old machine. There are thus two distinct and efficient air separations, independent of each other, both having independent valves, and are under perfect control of the operator. The manufacturers guarantee it to be a first-class corn cleaner, and respectfully ask a trial on its merits.

Both these machines are made in five sizes to suit varying requirements. The manufacturers are the BARNARD & LEAS MANUFACTURING COMPANY, Moline, Ill., who will be pleased to give correspondents any required information.

INDIA FLAX CROP.

The information which arrives from India as a mere by-word of explanation with reference to this year's crop

of flaxseed, is in reality of very considerable significance, and may exercise the most serious influence in approaching years. The Indian agriculturist is stated to be discouraged with flaxseed growing, not so much in the way that English farmers in the eighties have been discouraged over wheat, as in the way that many Kentish farmers have felt that they could no longer afford to grow hops. For the oil seeds, like hops, are largely speculative investments, paying a good profit in favorable years, but being liable to be ruined by an amount of weather disaster such as would only deprecate cereal or rice crops to a slight extent. The Indian farmer is not indisposed to speculation in the abstract. His love of gambling; his passion for litigation, his very religion all show this. But he seems unfortunately to be growing

poorer year by year, and to be less and less each season in a position to stand the racket of a single disastrous year. Hence there is an increasing tendency toward the safe crops, even if the source of but very little profit, and a corresponding inclination to discard the forms of produce to which a large degree of hazard is found to attach.—*The Miller, London*.

RENEWAL OF SEED WHEAT.

The Toledo Market Report makes some excellent suggestions on this question which we heartily indorse and give herewith: "There is no question concerning the policy of renewing seed wheat from long distances. If we would give the crop additional power to resist adverse conditions we must renew the life of the seed. We do not believe renewals from the same county is sufficient. Dealers at railway stations can easily procure seed from greater distances, and it is more sure to produce a crop. Wheat that has been resown repeatedly in the same locality has a weaker vitality to encounter vicissitudes."

SOUTH RUSSIAN GRAIN TRADE.

Consul-General Sandwith, reporting to the English government on the trade of Odessa during last year, says: The revelations made during the last few years of the abuses which exist in the grain trade of Southern Russia have produced a strong feeling among the public in favor of elevators. The fame of these palatial warehouses, and the splendid services they have rendered to the corn trade of America, have fired the imagination of the Russian land owner, who jumps to the conclusion that their introduction into this country will prove a panacea for the evils of which he has long been the victim. But the conditions of the trade in the two countries are widely dissimilar, and though it is hoped that by the instrumentality of elevators a better system may gradually be introduced, the day is yet far distant when anything like the regularity and expedition with which grain operations are conducted in the States can be realized in Russia. While in the former country great care is taken in the selection of the seed corn, which can be graded in five or six different classes, the farmer being thus enabled to deliver his wheat at the nearest elevator, and to receive in exchange a warrant specifying its grade, which becomes a negotiable instrument—in this country the qualities of wheat present such diversities of character as to be quite insusceptible of grading. No scientific selection of seed corn is attempted, each farmer sowing what he has by him, so that the varieties of wheat may be reckoned at fifty or sixty, if their cardinal differences and the modifications induced by the nature of the soil in which they are raised are both taken into account. Only barley and maize has it been found at all possible to grade.

It is this diversity in the kinds of wheat which renders South Russia so favorably a field for the operations of the manipulator. When a merchant has contracted to deliver a cargo of wheat, he finds it impossible to furnish all of one quality, and he accordingly employs the middle-man to buy different parcels which he mixes together until the product comes up to the required sample. It will readily be understood what opportunities are thus offered to unscrupulous agents to palm off inferior or damaged grain on their principals, who have to take extreme precautions against the fraud inevitable to the situation. While the leading export houses generally succeed in preserving their reputation, cargoes undoubtedly arrive at the home market which do not come up to the samples which are transmitted overland.

It was to protect themselves against losses to which they were thus exposed that the home merchants established in the principal English ports committees of arbitration, by the decision of which the foreign merchant is bound by his contract to abide. When, therefore, exception is taken to a cargo as not coming up to sample these committees appoint experts to examine the grain, in accordance with whose report they will strike off 1s., 2s., 3s., or even more per quarter, as the equity of the case may require. This single measure has had a most beneficial effect in checking fraudulent practices, and in keeping the trade in a healthy condition. Nevertheless the home merchant is seriously compromised when an unsound cargo is thrown on his hands, as he may have contracted to deliver it at a fixed rate to a miller or maltster, who will refuse to receive it as unfit for his purpose. No reduction of price can then compensate him for the loss sustained, and an expensive and harassing litigation is the probable outcome of the situation.

But it is in his dealings with the agriculturist that opportunities are furnished for the operations of the manipulator. The former is no match for the local middleman, who is to be found in every village in the double character of corn dealer and vendor of spirits, and to whom he is almost obliged by his commercial isolation to have recourse when he wishes to dispose of his crops. These men are almost invariably Jews, and the columns of the Russian newspapers teem with articles exposing their chicanery and bad faith. Great allowance ought to be made for the irritation felt by Russians at seeing the profits of this lucrative business monopolized by an alien race, whose peculiar aptitude for trade renders their services indispensable for its successful pursuit. Their industry, sobriety, and the small profits which they derive from the commissions they undertake, amply account for the commanding position they have acquired in the trade;

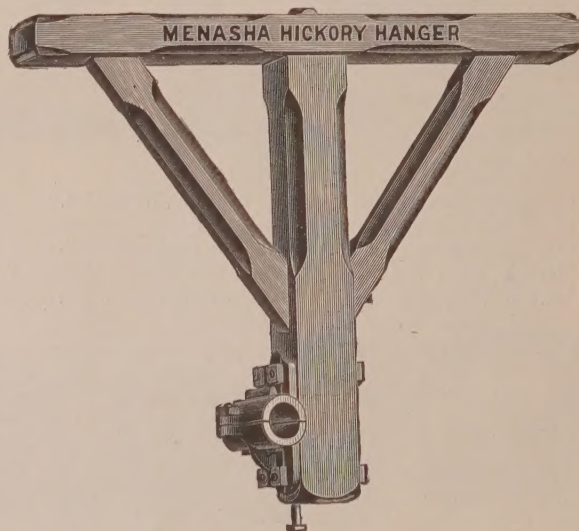
but their good qualities are overlooked, and their success is attributed to the grosser devices of unfair dealing, from which of course they are by no means exempt. They are in close relations with Hebrew merchants established in the town, who transact business with the capitalists of Odessa, who again have connections with houses in Paris and London, and thus the grain trade, which was once in the hands of the Greeks, has gradually shifted to the counting houses of the Hebrews.

The Russian land owner, whether large proprietor or peasant, undoubtedly fails to secure the same profits from his husbandry as falls to the lot of the more fortunate American farmer, and the government, which is in full sympathy with its orthodox subjects as regards the hardships of their position, is now tentatively introducing the systems of elevators as affording the means of enabling them to sell their grain without applying to the middle-man.

MENASHA HICKORY HANGERS.

We illustrate in this number the Menasha Hickory Hangers, manufactured by the Menasha Wood Split Pulley Company at Menasha, Wis.

The hangers have an upright post with side braces and a cross bar at top, all bolted solid together. An iron box is so arranged to the lower end of the hanger post as to be movable up and down, so that their necessary adjustment is obtained. The boxes are made on the newest



THE MENASHA HICKORY HANGER.

plan, long and strong, so that there can be no possible heating, and less oil is used.

The strength of the hanger is proportioned to the load it has to carry, the same as an iron hanger. They are as strong, if not stronger, than an iron hanger, more graceful, and about one-fourth of the weight. They are handsomely finished in the natural wood. When shipped they are ready to bolt to the ceiling.

The special advantage of these hangers over iron hangers is, first, they cost about one-half the price of an iron hanger; they weigh less, and the freight is less, and they are stronger and more handsome. They are adjustable in every direction.

The company have already shipped them over a good portion of the United States.

The price list is one-half off the iron hanger list, and a discount is given from that.

INDIAN CORN FOR SPAIN.

Consul Turner at Cadiz says: "Here, so far as I am able to learn, Indian corn is not used for food. The corn raised here, as well as that which is imported, is fed to animals or used for distilling. Sweet canned corn, corn bread, mush, etc., are not known.

"The great question with the working classes is, how to get bread. This question would be less difficult of solution were the food uses of Indian corn as well understood here as in the United States. Corn bread, canned corn, etc., would be great gifts to the workers of Europe, and it would seem that an understanding of their value might be brought about wherever bread is hard to get. Being wholesome and cheap, corn should win its way."

GRADES.

[The following is taken from the letter of a prominent grain man whose name we do not feel at liberty to use.]

The true basis of grades, in my judgment, is about as follows:

Good husbandry, care in selecting seed, harvesting, cleaning and caring for crops should produce No. 1 grain.

The No. 2 grade should include the bulk of the crop when reasonably sound, plump and clean, and will make sound breadstuffs. I refer to wheat, corn and oats.

No. 3 should include good, sound grain that will make sound flour or meal, but not up to a fair standard of weight, because lighter grain will yield smaller per cent. of flour or meal and not worth quite as much to manufacture or for feeding purposes.

All damaged or unsound or very dirty grain should not be graded, but sold by sample.

I think that good milling wheat should be divided into four grades: No. 1 pure, unmixed, extra quality, suitable for seed, and Nos. 2, 3 and 4 according to its value for flour. There may be a difference of 20 per cent. in the quantity of good merchantable flour that sixty pounds of two different samples of wheat will make, and weight per measured bushel should be the standard of values, hence of grades. Sixty-pound wheat will yield more flour per sixty pounds than fifty-eight, fifty-six or fifty-four pound grain.

The grain grown in the Western states reaches all the markets of the world, and there should be some general standard of grading.

The local markets of the West have widely different standards, as also have Boston, New York, Philadelphia and Baltimore.

Chicago, the greatest receiving market of the world, is governed by influences that must, in the very nature of things, result injuriously to the producer.

While the volume of actual grain which passes through that city is beyond conception of ordinary minds, yet the receivers and shippers of actual grain form but a very small per cent. of the membership of the Chicago Board of Trade. Probably 90 per cent. of the members never receive a car of grain, and even the receiving houses derive but a small portion of their revenue from commissions on actual grain received. It is estimated that less than 1 per cent. of the transactions on the Board are for actual grain, and that portion of the business is simply incidental. The great interest centers in the speculative and gambling trading, and the legislation of the Board is controlled entirely by that element.

Years ago the state of Illinois took the matter of inspection under its control, but the influence of the Board overshadows the entire business, and must inevitably exert an overpowering influence over the inspectors. There are several classes of dealers who are interested in influencing inspection.

The gamblers in options desire that the standard of the speculative grade should be high; that the quantity of that grade should be limited, that they may the more easily control it.

The manufacturing element (millers) desire that said standard be high, that they may buy good merchantable wheat as of a lower grade, and consequently at lower prices.

The exporter desires to buy lower grades that will grade higher in the consumption markets.

These all work in harmony to influence inspection, establishing a standard so high that it would appear that American grain is of a very inferior quality as a rule.

Chicago No. 2 wheat is purchased and mixed with inferior grades and exported as No. 2. No. 3 wheat is exported as No. 2, and the bulk of the wheat bought by millers on the Chicago market for their home trade and for export is the No. 3 grade, being good, sound milling wheat, and such as ought to grade No. 2, and would in the markets of the world.

The highest average yield of buckwheat is in the New England states, Michigan, Minnesota and Oregon. There is little choice of varieties of seeds. Till recently only two varieties were grown in this country, and even now many prominent seedsmen catalogue only one variety, the European Silver Hull. The common black buckwheat is still generally grown, but a new variety from Japan is found to be much more productive than the old varieties.

A NEW ENEMY TO RYE.

The August issue of *Insect Life*, published by Division of Entomology of the Department of Agriculture, gives the following account of an entirely new and very injurious enemy to the rye crop, which made its appearance in 1887 in St. Mary's county, Md. We have never published any account of it, awaiting its reappearance. It has not, however, since been seen, and as the matter is of considerable interest, we present this note. The pest was a small, active, rather hairy caterpillar, which confined its attacks entirely to the heads of the grain. Mr. G. F. Dyer of Leonardtown, to whom we are indebted for the specimens, wrote that he had twenty acres of rye from which he expected to harvest from eighteen to twenty bushels per acre, but that the crop was entirely destroyed, and was not worth harvesting except for the straw. He had about twenty acres of wheat in the same field, but this crop was not touched. The field in question was not in cultivation last year, but in 1885 was planted with corn and tobacco. The larva is small, measuring but a trifle more than a quarter of an inch in length when full grown. It is yellowish in color, and is marked with two broad brown bands down the back, and two narrower ones nearer the sides. The back is also furnished with a number of large yellowish warts, six to each joint, from each of which comes a bunch of stiff hairs.

The work of the larva is very thorough. Nearly every grain is bored into by a circular hole through its sheath, and the contents eaten out more or less completely. Mr. Dyer counted as many as seven larvæ upon a single head, and each larva must destroy a number of grains in the course of its growth. Before transforming to pupa the larva spins for itself a moderately strong silken cocoon, covering it with spiny bits of the seed sheaths, and attaches it to the head of the grain. It remains in the pupa state not more than a week or ten days, when the adult insect, a small white moth slightly marked with slate color toward the tip of the wings, emerges. The adult is a species of the interesting genus *Nola*, and is closely related to *Nola sorghivella*, Riley, described in the annual report of the Entomologist, and which was reared from sorghum from Alabama.

The habits of this insect, so far as learned, render it easy to subdue, as it spun its cocoons and transformed with considerable regularity just at the time of harvest. We therefore advised Mr. Dyer to thresh his grain immediately after harvest, for if this course were followed the helpless pupæ attached to the heads would be crushed, and the next generation of the insect would be practically "nipped in the bud."

From the fact that the land was not cultivated the previous season, it becomes probable that the normal food of this insect is some uncultivated plant, and that this damage to rye is to a great extent abnormal. The very thoroughness with which Mr. Dyer carried out our recommendation probably accounts for the subsequent non-appearance of the insect.

MARKETING OF GRAIN.

We confess, says the *Alliance Tribune* of Topeka, Kan., that we were not aware that an institution of such magnitude as the Capital Elevator was located here at our doors and doing a large business. The subject of holding back from market a portion at least of our annual crops is one that has engaged the attention of every thoughtful farmer. As it is now, a great portion of the crop is rushed upon the market immediately after harvest with the inevitable effect of breaking down prices. Farmers ought to be able to hold their grain and take advantage of the higher prices which almost invariably prevail later on in the season. But few farmers are so situated as to do this. They have no suitable granaries, and their crops suffer damage from poultry and vermin, and are in bad condition when finally put upon the market. By storing in a

good elevator the farmer gets his grain on the market in much better condition, and thus secures for it a better grade and a higher price; he also saves it from waste and destruction by poultry and rats; he has it secured by good insurance against the perils of fire, and avoids throwing it upon the market when there is a rush and prices are low.

IRRIGATED CEREALS IN DAKOTA.

An experiment in irrigating land with artesian well water has been successfully tried at Hitchcock, S. Dak., with results of great importance and interest to all farmers in the Northwest.

The experiments were inaugurated and managed by the Hon. L. H. Hale of Huron and C. E. Bostwick of Hitchcock. A quarter section of foul land was secured which had been cultivated to wheat for eight years in succession

yielded four bushels, worth possibly \$2, or 50 cents per bushel. Wheat from the tests were examined by Minneapolis experts, the irrigated grading "No. 1 Northern hard," the non-irrigated grading "rejected."

The water used came from the Hitchcock Artesian well, which is 900 feet deep, the water boiling out of a 4½-inch pipe with a total pressure of 165 pounds per inch. The water is clear, with a slightly brackish taste, and smells strongly of sulphur. An analysis shows the presence of sulphur, iron, lime and epsom salts.

The water was conveyed to the land by rude ditches hastily plowed out. The irrigated wheat measured over four feet in height, with plump, heavy heads and firm, bright stalks; the "natural climate" wheat was two feet high, thin, shrunken heads, and weak, dull stems. This experiment proves that wheat can be raised by irrigation at a cost of 32 cents per bushel, and worth 85, or a profit of 53 cents per bushel; while adjoining non-irrigated wheat costs \$1.56 per bushel, and is worth only 50 cents, a loss of over \$1 per bushel for producing a poor quality of chicken feed. It proves that the artesian well water, although containing considerable mineral matter, will not injure but feed the small grains. The remainder of the quarter section was tested with oats, millet and corn.

Enormous yields are claimed, but exact statistics were not obtainable. Average samples were photographed showing results equal at least to the wheat tests. The corn is not yet matured, but presents a fine object lesson, the irrigated reminding one of the old-fashioned ten-foot corn of our Illinois farm, while the *au naturel* is hardly knee high, drooping its head in mute apology for being in existence. Irrigation will eliminate the expression "off year" from agriculture in South Dakota, and confine it to politics, where it belongs. "More water" is the cry of an agricultural and prohibition state, and Uncle Sam should see that his youngster does not go thirsty. The United States Artesian Well Commissioners have stated in interviews that the artesian basin extends under nearly all of South Dakota, and is inexhaustible. The official report will be anxiously waited for by our farmers, bankers and festive loan agents.

HOLDING GRAIN FOR A RISE.

During any ten years, the man that sells his wheat and oats soon after they are threshed will realize more from them than if he stores for a better price. The man that holds for a better price must have a granary, even though the bins are empty nine months of the year. Interest on the cost of the granary, and wear and tear to the building, must be deducted from the amount realized for the wheat in making the comparison, for the man that sells from the machine is at no expense for granary. The best granary is the cheapest, as with it there is the least waste of grain; but in even the best granaries there are possi-

bilities of damage by weevils and mice. The cost of insurance must be charged against the wheat held for a better price. It will also lose in weight in the granary. During a term of years, cost of granary, loss through weevils, mice, etc., insurance, shrinkage in weight, and interest on the money that could be made productive were the grain sold at once—and which must be considered—these things will amount to more, taking one year with another, than the increase in price.

During the year there is often a considerable advance in price after threshing time, and if the farmer were endowed with foreknowledge, and always got the highest price, he would be ahead by holding his grain. The advance during the year is not so sharp now as for merly.

This is due to better transportation facilities, and the development of the elevator system, particularly in the Northwest, and to the growth of the large mills and milling centers having large capital.—*American Agriculturist*.



IRRIGATED AND NON IRRIGATED CEREALS IN DAKOTA.

without the use of any fertilizer whatever, and still further impoverished by the wasteful burning off of the stubble each fall.

A gang of men were hastily secured on May 20, and the ground poorly plowed and harrowed, some of the parties testifying that in some places the soil was not stirred more than three inches deep, "owing to the haste and hilarity prevailing."

On May 25 one bushel per acre of Scotch Fife wheat, not selected, but just as it came from the elevator, was sown broadcast over fifty acres. Twenty-five acres were irrigated from June 2 until matured, the remainder being left to the tender mercies of a Dakota summer.

At harvest time three distinct tests were made of each piece, one measured acre being selected, stacked and threshed separately, with results checking within less than half a bushel.

The irrigated land cost \$7.40 per acre, and yielded twenty-three bushels, worth 85 cents per bushel, or \$19.55 per acre. The non-irrigated cost \$6.25 per acre, and

CONSTRUCTION, CAPACITY AND SPEED OF ELEVATORS.

BY R. JAMES ABERNATHY.

Many questions are asked in relation to construction, capacity and speed of elevators, some of which are fairly answered. Still the same questions come back by those who forget and by new aspirants who have never learned, and so the teachers have to keep on repeating over and over, substantially the same instructions. But that probably is just what teachers are made for; anyway, that is just what they have to do in every department of education, from the primary class of infantile learners up to the rounding-off part of finished education. But as to the elevator, about which we intended to say something. To understand the question more clearly, the intelligent reader interested in the subject should know something about the principle or natural law controlling the operation of a stand of elevators.

There was a time, and not so very long ago, when elevators were constructed with a great deal of slant; that is to say, they would start with the boot at one side of the building in the basement, and land the head at the other side of the building at the top. It was then supposed that unless an elevator was so put up it could not be made to discharge. It must be admitted that elevators built in that way and run at a slow speed, as all were in those days, were very effective dischargers; as the material rolled over the upper pulley it took a perpendicular drop, with not even the ghost of a chance for any part of it getting back into the down leg.

But for obvious reasons elevators built in that way presented some objectionable features. First—the belt, weighted down with the loaded cups, dragged heavily in the up leg, which increased the power required to drive it, besides being very severe on the belt, causing it to wear out very rapidly; again, the cups dragged heavily in the down leg, wearing out both the cups and the casing. Then again numerous elevators running through a building at such sharp angles and in every direction, as they always did, occupied entirely too much room and seriously interfered with the decent arrangement of the other machinery. In view of these many drawbacks some one, it is not recorded who, hit upon the plan of running the elevators perpendicularly. It was probably an experiment, as it is not likely that the law controlling the discharge of elevators was thought of, but anyway the method was right, and being right, won, and at the same time did away with a method that had proved to be very disadvantageous.

When run upon an incline elevators discharge by the force of gravitation. When standing perpendicularly they discharge by centrifugal force. The slanting elevator will discharge freely at any speed, from one revolution up to 30 and 40 or even higher for loose grain, if room enough is left at the point of discharge for the grain to get away with out rebounding, in which case some of it might be driven back down the down leg of even a very slanting elevator.

The perpendicular elevator will not discharge when the speed is too low, but instead will roll gently over the top of the upper pulley and drop naturally back down the down leg, with not even a grain going out through the discharge spout unless it hits a cup in the descent and bounds over into the discharge opening. Therefore to make a perpendicular stand of elevators discharge freely and with certainty, the upper pulley must have speed to generate sufficient centrifugal force to throw the material beyond the mouth of the down leg just as soon as it passes the top center of the pulley and allows it to drop into the mouth of the discharge spout.

With exactly the right speed and a proper construction of discharge, elevators are made to clean themselves very thoroughly, with but little if any material going back. But to get an exact speed is difficult, and probably never will be obtained for all kinds of material. However, good approximate speeds can be arrived at, which answer all practical purposes. The centrifugal force of revolving bodies is as to their diameters and the square of their velocities, and the head pulley in an elevator should have speed enough to generate the force necessary to throw the material beyond the mouth of the down leg.

The actual speed and force, if it could in practice be attained, would vary with the density or specific gravity of the material being elevated.

The reader will observe by the law that the force generated is directly as to the diameter of the body or pulley in this case, or to make it plain, a 36-inch pulley making 36 revolutions per minute, would have twice the force of an 18-inch pulley making the same number of revolutions in the same time. He will also observe that the 36-inch pulley requires twice the force of an 18-inch pulley, because it has just twice as far to throw the material in order to clear the pulley.

Therefore for simply clearing the pulley, the speeds of all sizes of pulleys in the head of an elevator, would be just the same for handling the same kind of material. But in addition to clearing the sides of the pulleys by the discharged material, the mouth of the down leg has also to be cleared, as already stated, and hence the 18-inch pulley should have a little greater speed than the 36-inch pulley, because it has a relatively greater distance to throw the material in order to clear the mouth of the down leg and make a clean discharge, and hence the

safe enough, if it were needed to increase lifting capacity.

It often occurs that material increase in handling capacity can be obtained by increasing the speed of the elevator, and I invariably recommend doing that in preference to putting in larger elevators, when it can be done without detriment. It is not safe to try it for corn and cobs; but for loose grain several points can be strained in the way of increasing speed and capacity, if the mouth of the discharge is altered to suit. Any material increase in speed increases the centrifugal force, because as above stated, the centrifugal force is as to the square of the velocity. Thus a pulley making 72 revolutions per minute would have four times the centrifugal force that it would if making but 36 revolutions per minute.

It will be seen then that the centrifugal force increases very rapidly with increase of speed, so that when the speed of the elevator is increased for the purpose of increasing capacity, the discharge mouth should be enlarged and the front board of the elevator head moved further out, so that the grain will have more room to free itself and drop into the discharge spout without too much of a rebound. If the discharge is too small and the front board too near the pulley, the grain, at high speed, will strike it with such force as to cause it to sharply rebound and much of it drop back down the elevator leg.

The lifting or handling capacity of an elevator can be determined by timing it while handling a given amount, or by taking the holding capacity of the cups and making a calculation from that. To do that ascertain the number of revolutions the belt makes each minute, which must be multiplied by the number of cups on the belt, and that sum by the quantity of grain each cup holds, in pints or quarts as the case may be, then reduce to bushels, which gives the number of bushels and fractions of a bushel raised per minute; then multiply by 60 and the capacity per hour is found. To get the revolutions of the belt, multiply the diameter of the head pulley by 3.1416, and divide into the whole length of the belt in feet, which gives the number of pulley revolutions to one belt revolution. Then divide into the whole number of revolutions made by the pulley and the per minute revolutions of the belt is given.

NEW ZEALAND FLAX.

In a recent report by Consul Connolly of Auckland that official says:

"Inasmuch as flax fiber has become an article of considerable commercial importance in New Zealand during the past year, I have endeavored to procure some of the seed, which I forward herewith, together with such information as I have been able to obtain in relation to the cultivation of the fiber. The purchase of New Zealand flax by the United States largely exceeded

that of any other country during 1889. I have therefore deemed it my duty, in view of the immense commercial value to which this exclusively New Zealand product has attained during the brief space of one year, to acquaint the department of its growing importance as an article of export to the United States and other countries.

"I am convinced that if handled with intelligence and care the *Phormium tenax* plant can be successfully and advantageously cultivated in the United States. The climate and swamps of many of the Southern States are peculiarly adapted to the propagation of New Zealand flax. The climate of California is also suitable for the cultivation of the flax plant. *Phormium tenax* is indigenous to New Zealand, Norfolk Island, Chatham Islands, and other smaller islands situated between 30° and 50° south latitude.

"The flax used for export is usually cut from the swamps, marshes and river banks. It is in its wild, uncultivated state, and it is cut down and run through the machines without any attempt at selection. This is much to be regretted, as with a little care, even with the crude machinery in use at present, a much finer article could be produced."

SILVER CREEK, N. Y., had a grand celebration and fireman's parade recently, which was attended by 10,000 visitors. Mr. Simeon Howes, president of the village, delivered a neat and appropriate address of welcome.



HISS DICKER.

MR. PINELANDS (from Jersey)—"I reckon I've found it at last. This is the produce exchange buildin', ain't it?"

MR. PINELANDS—"Good. Here's four dozen eggs, an' you can hustle an' git me a yaller neck-han'kerchief with red spots, a hand of chewin'-tobacco, an' a small bladder of snuff fer mother."

reason why elevators with small head pulleys run so much faster than those with large pulleys.

There used to be a theory among mechanics, especially millwrights, that an elevator belt should travel about so many feet per minute without reference to the size of the pulleys. That, however, was pure and unadulterated nonsense which has no votaries now, so far as is known to the writer. The speed of belts in elevators as running today varies all the way from 175 feet or less per minute, up to 450 feet or more per minute, and all working properly.

But leaving the theory, the science and the law alone for the time being, we will now try to get at the practical part of it, and look the other up a little more carefully at some future time. It has been demonstrated that a pulley 36 inches in diameter should run about 40 revolutions per minute, when handling loose grain, and a little less, say 37 or 38 revolutions, when handling corn and cobs from the sheller. Down to 24 inches in diameter and up to 48 inches in diameter there need be no material change in speed. The smaller pulley can run safely a little faster and the larger a little slower, but if all were run at the same speed no appreciable difference would be found. When we get up to 60 inches in diameter, however, the speed is a little too high and should be brought down to about 33 revolutions, or a little less, if ear corn or corn and cobs are being handled. For handling loose grain, either corn or wheat, a speed of 35 revolutions would be



[We invite correspondence from every one in any way interested in the grain trade, on all topics connected therewith. We wish to see a general exchange of opinion on all subjects which pertain to the interests of the trade at large, or any branch of it.]

MAKING IMPROVEMENTS.

Editor American Elevator and Grain Trade:—L. E. Gwinn, proprietor of the Brunswick Grits Mills, is putting in a new elevator and doubling the capacity of his 200 barrel grits mill. He is also putting in machinery for re-bolting flour.

Yours very truly,
Brunswick, Ga.

O. ROGERS.

HAVE A NEW ELEVATOR.

Editor American Elevator and Grain Trade:—Our new 500,000-bushel elevator has been completed. James Stewart & Co. of St Louis, the contractors, have given us a first-class job. We inclose \$1 for one year's subscription to the AMERICAN ELEVATOR AND GRAIN TRADE, of which we received a copy lately. We like the paper, and expect to be a constant reader of it.

Truly yours,
Fostoria, Ohio.

THE ISAAC HARTER COMPANY.
(A. Mennel, Supt.)

SHORTAGES AT BUFFALO.

Editor American Elevator and Grain Trade:—I have just returned from Duluth, where I have been testing scales for the various elevators. Herewith please note statement made by the elevators in Duluth this season: The Duluth Elevator Company, 33 cargoes, 1,315,892 bushels; average shortage at Buffalo, 42 pounds per 1,000 bushels. Elevator "D" of the Lake Superior system, 27 cargoes, 932,678 bushels; 36 pounds per 1,000 bushels short. Great Northern, 12 cargoes, 272,395 bushels; 36 pounds per 1,000 bushels short.

The above amount does not cover all the cargoes shipped from that point, but all that Mr. Smith has reported. In addition to the above, I am told by the managers that not a single complaint has been made this season to them, which speaks well for Duluth after such fearful experiences as they had last year. I think I made the statement last fall that Duluth would run well this year, but some other port would have to suffer. That has been my observation for the last fifteen or twenty years, and it will continue to be so until a radical change is made in the method of doing the business. Until the vessel owners take hold of the subject in earnest, do away with sentiment and come down to business, they will be annoyed by shortages as in years past. I believe a plan can be adopted by which the shortages can be reduced to the smallest per cent., but not under the present method.

Yours resp'y,
Minneapolis, Minn.

MR. DENISON B. SMITH'S OPINION OF THE CHARACTER OF "SPECULATOR."

Editor American Elevator and Grain Trade:—Whatever doubt may have prevailed concerning the mental capability and general decency of character of your correspondent, "Speculator," previous to his letter in your last issue, has been thoroughly cleared and fixed by that letter. He had thirty days for its preparation. A fair inventory of what the mountain has brought forth is the charge that a respectable gentleman, much his senior in years—and it is to be hoped, far his superior in the necessary elements of a high character—an officer of an exchange whose members are peers in all respects of those of the exchange with which he is connected, is paid a salary by his exchange for lying, and that he has not the courage of truthfulness for fear of losing that salary.

I do not know your correspondent, and I can easily estimate the loss of an acquaintance with a man who is capable of so contemptible a letter. It indicates a plane of intellectual and courteous development that I beg to be excused from imitating. I have neither time nor disposition to bandy epithets with any one. I have always supposed that politeness was as cheap and convenient as its opposite.

Your "Speculator" may be a successful grain trader, but may I ask if he is not wanting in the natural instincts

of a gentleman? This suspicion is strengthened by his hiding his personality under a nom de plume.

Respectfully, etc.,
Toledo, Ohio.

DENISON B. SMITH.

NEW ELEVATORS IN NEBRASKA.

Editor American Elevator and Grain Trade:—I have not been rushed with business this season, but have had a fair trade, considering the short crops. I have just finished a 15,000-bushel house for the Woodman Elevator Company at Lexington, Neb. I have contracted to build the same size elevator for the Dunbar Alliance Elevator Company at Dunbar, Neb., with a number of jobs in sight. Inclosed find postal money order for \$1 in payment for the AMERICAN ELEVATOR AND GRAIN TRADE, from Sept. 1, 1890, to Aug., '91, inclusive. I failed to receive the August number; please send it and oblige

Yours truly,
Lincoln, Neb.

J. A. CAMPBELL.

HOW SHORTAGES HAVE BEEN CUT DOWN.

Editor American Elevator and Grain Trade:—You used the following language in your issue of Aug. 15, 1890: "Clearly the old system was faulty, and the shortages directly traceable to Buffalo, if a mere change of system resulted in lopping off four-fifths of the shortages." And again: "Buffalo having confessed to beating other ports for years to the extent of 8) per cent., we shall entertain a suspicion that the other 20 per cent. belongs somewhere in the vicinity."

My first impression on reading the above was that it was a case of mendacity, and unworthy of an answer; but while my letter plainly said, "While we find errors and defects in Buffalo at times, and by finding them have been able to correct and simplify matters so as to reduce the probability of error to a minimum, and to make almost certain the discovery of any serious error if here, we have also in every season been enabled to trace errors and serious defects to other points," I still can see that from careless reading, and possibly the wish being father to the thought, you might assume that the system mentioned was simply a change in the method of doing the work in Buffalo. I will therefore assume that you are not willfully making statements so utterly at variance with the truth, and I will state what that system is.

It is, first, to begin at home and endeavor so far as is possible, to be right here. The grain must in all cases pass through the weighing hopper before it can reach the bins, and each elevator has procured weights none less than 6,000 pounds with which to make thorough tests of scales from time to time, and at any time that my record indicates the necessity, and we see that the weighing is fair and just; and as my letter of July 29 stated, we sometimes find errors and defects here, and the greater care and greater accuracy here will account for a portion of the decrease in shortages.

But this is only a part of it, and so far as the large shortages are concerned, a very small part of it. For in addition to the record of all my work at Buffalo, I keep a record of results from the various elevators at which these craft loaded, and when that record points to a Buffalo house, that house is carefully examined to see if we can find the cause. If, on the other hand, my record shows a series of shortages from any Western elevator, the endeavor is made to have that house examined, the error corrected if possible, and the cause removed.

That is the system, and the persistent, careful carrying out of that system has resulted in the great change made; cutting down the shortages about 80 per cent.—not in Buffalo alone, not in any Western house or port alone, but by the constant endeavor to be right at all points.

JUNIUS S. SMITH,
Merchants' Exchange Weighmaster.
Buffalo, N. Y.

IMPORTING WHEAT.

It is a curious fact that wheat is now being imported (our market being relatively much higher than the foreign) in this way: "Steamers that are chartered and must load wheat are taking on their cargo, going to the other side, and, without discharging, are sold back to us as an option, thus avoiding the duty of 15 cents per bushel, and making money after paying freight both ways. Indian and Russian wheat could both be imported at a profit now but for the duty. And yet people say the duty does not protect the farmers.—Baltimore Journal of Commerce.

PROTEST AGAINST MINNEAPOLIS GRADING.

Minneapolis millers and grain dealers held a meeting recently to consider the matter of wheat grading. There is loud complaint that the state has let down on the quality of wheat that is allowed to go into the three upper grades. This, some of the millers claimed, is carried so far as to make it unsafe to buy for their mills in other way than by sample.

A proposition that the millers unite in refusing to buy No. 1 Northern wheat by grade was discussed. There seemed to be a general opinion among them that the quality had been lowered, but they were divided as to the best way to handle the question. Those opposed to the agreement insisted that it would be their policy to buy in whatever way they thought it would be to their individual advantage. They claimed that the proper way to remedy the evil would be for the elevator people to refuse to take into their houses unsound wheat in the upper grades when such are sent to them, and to call reinspection on it.

As things now are, say the millers, all the elevator companies care for is to get a grade regardless of quality and then dump it in with the other wheat of that grade. Receivers among the commission men were also divided on the subject. Several claimed that the grading is all right, except that mistakes are made in some cars, a thing almost impossible to avoid with such a crop as this. Others took the ground that the standard adopted is entirely too low, and lets unsound wheat into grades where it is not entitled to go.

The complaints did not reflect on the individual work of the chief deputy, but on the general lowering of the standards. Some persons shipping out grade wheat from here said they were having complaints and the condition is hurting business. Other shippers said they bought nothing to ship except by sample and were not affected by the low standard. These dealers said that all there is to it is that if the standard keeps down no grade wheat would be taken unless at prices enough lower to cover the risk in taking it. The whole cost of it they said would fall back on the farmers.

GRAIN TRADE OF MINNEAPOLIS.

The crop year for Minneapolis closed Aug. 30, and with the exception of one year, that of 1888, shows the largest figures in all branches of the market within the city's history. The entire receipts of wheat amount to 43,393,950 bushels, an advance over last year of 6,000,000 in round numbers. For the same period the shipments amounted to 10,231,325 bushels. The figures compare very favorably with those of other cities, New York being second in rank with a showing of 21,405,137 bushels as receipts and 14,208,098 as shipments. Duluth comes in with 19,359,104 bushels. The local receipts for last year were 37,660,855 bushels. In the flour output the same difference is a notable one. The number of barrels manufactured since September, 1889, is 6,713,052, that of the period from September, 1888, reaching 5,696,586 barrels.

The corn showing is the most remarkable of the lot. Receipts were 4,451,230 bushels, and the shipments 2,230,800 bushels, a clear gain of 300,000 bushels over 1889. The oats total as well as that of flax give these results: Oats—Receipts, 3,360,600 bushels; shipments, 1,889,600 bushels. Flax—Receipts, 538,000 bushels, and shipments 25,000 bushels.

The Duluth corn receipts for the year ending to-day were 1,532,863 bushels, and shipments 2,015,005 bushels; oats, receipts 1,579,790 bushels, and shipments 1,589,703 bushels.

At Milwaukee the wheat figures cannot be expected to reach nearly to the local standpoint, but the output is nevertheless a fair yield, receipts reaching 7,345,434 bushels, and shipments 3,118,438.

Since 1883 the Minneapolis market has advanced from 23,514,567 bushels, which were received by mills during that year, to the totals figured up to-day. On account of the excellent crops in 1887 the receipts were 4,000,000 bushels better, but that was an exceptional year, and altogether the year just closed is the standard bearer of the series.

Eastbound flaxseed rates from Chicago have been reduced from 9½ cents to 8½ cents to Cleveland, from 7½ cents to 7 cents to Toledo and Detroit, and from 10½ to 9½ cents to Warren, Ohio.

SHORTAGES IN LAKE SHIPMENTS.

We have recently sent out letters of inquiry to superintendents of elevators at Western points of shipment on the great lakes regarding the shortages in shipments from their elevators to Eastern points by water. We have received the following replies:

ALL LIABLE TO ERR.

Editor American Elevator and Grain Trade:—I am in receipt of your communication regarding shipments of wheat by boat from our elevator to Eastern ports; in reply to same would say that the bulk of our shipments go to Buffalo; we do send some cargoes to Oswego, but have never received reports from anyone there advising how they turned out, and have had no complaints so far from anyone; we have therefore taken it for granted that our weights there are giving satisfaction. As far as Buffalo is concerned, we cannot complain very much, especially during the current season, as with a few exceptions our weights there have held out in good shape and given us and the vessel men satisfaction.

You will see from the above that we cannot make any comparison between Buffalo and other ports. I would not want to say where the blame lies for the shortages, as we are all liable to make errors. We here insist on our men doing good, careful work and have instructed them time and again to that end. My only recommendation for remedy for shortages is, careful and accurate work, and weighmen ought to understand distinctly that they should take lots of time to weigh grain into vessels and not hurry it, so as to know that their figures are absolutely correct. I think that at places like Buffalo, where they elevate so many cargoes, that hurried, and in some cases careless work, is responsible for a good many shortages.

Yours truly, W. MACMILLAN,
Agt. Mich. Cent. R. R. Co.

Detroit, Mich.

SMALL DRAFTS AND WET GRAIN.

Editor American Elevator and Grain Trade:—I am in receipt of your favor requesting an account of our experience in shipping grain by lake. I can probably say little or nothing that is new regarding this vexed question of shortages on lake shipments. I am without necessary data to answer your question as to how frequently shortages are reported in the shipments from our elevator to Eastern ports. Also as to comparative shortages at Buffalo and other points.

The blame for shortage lies principally, perhaps, in the manner of weighing grain at points of shipment and destination, but there are other considerations which often account for reported shortages. Carelessness in weighing is one of the prime causes of shortages and overruns, and the only remedy is to put only experienced and high-priced men into the weighing departments of all elevators. Most Western elevators weigh out in large drafts of 600 to 800 bushels, thus giving but one balance, while at destination they get six to eight balances on the same amount of grain as they weigh out in 100-bushel drafts. This item in itself amounts to little on each draft, but the aggregate is large on an entire cargo. Another and very serious cause of shortages is the fact that where grain is wet on board the vessel in transit, the elevators at destination refuse to unload the damaged grain, and report weights only of grain that is in good condition, thus making it appear that the vessel is very much short of her billed weights, when if the wet grain was taken out of her and weighed the result would be very different. The custom now seems to be to weigh out the dry grain and estimate the amount of damaged grain left in the hold, and any one knows that 50 to 100 bushels cuts a very small figure when it is scattered over the bottom of a vessel. When such a case occurs the captains charge Western elevators with short weights, and the Eastern elevators with excessive weights, and "mum" is the word regarding the wet grain, and in such cases neither the Western nor the Eastern elevators are responsible for the shortage.

This cause could be entirely done away with if elevators at destination would remove all the grain from the vessel and report the net weight of the entire cargo. In my opinion such a handling of the cargoes would often make a very different showing as to discrepancy in weights, and place both Eastern and Western elevators in a better light before shippers and vessel men. I trust that your inquiries may be successful in bringing out

from some one suggestions for handling this matter which will be entirely satisfactory to all concerned.

Yours truly, M. W. PLATT,
Sec'y Union Elevator Co.

Toledo, Ohio.

NO SHORTAGES REPORTED.

Editor American Elevator and Grain Trade:—In reply to your favor I have to say that we receive no report of shortages of grain shipped by lake, except in exceptional cases, where it is evident an error has been made. My experience is that weights of grain shipped from our elevators give pretty general satisfaction. As to whether shortages are greatest at Buffalo or other points, I have no means of knowing, except from reports which I see published occasionally.

Yours truly, G. E. HUSTED,
Agt. L. S. & M. S. R. R.

Toledo, Ohio.

SOME GOOD SUGGESTIONS.

Editor American Elevator and Grain Trade:—Replying to your communication regarding shipments of grain from our elevator to Eastern ports by boat, would say, we are shipping more or less wheat every season to Oswego, Ogdensburg and to Buffalo by boat, and we seldom hear of any complaint of shortages from the first two places named. Most of the wheat going to these two places is for milling purposes and they are very careful in weighing out from boats, taking plenty of time.

So far as our shipments to Buffalo are concerned we can't complain so very much, especially during the present season, our shipments there with few exceptions having weighed out very good. In discussion of these shortages it must be remembered that none of us are perfect and that all are liable to make mistakes. The only remedy I can recommend would be careful and positively correct weighting at the loading of the boat, and the same in weighing out. All must be positively sure in the weights; let there be no guess work. Not long since a boat loaded at one of the elevators in this city with 63,000 bushels of wheat. This wheat was weighed into the boat in 125 drafts; four scales were employed in the weighing, and the time consumed in the weighing was something over four hours, a trifle over 250 minutes; this by the use of the four scales already mentioned gives about eight minutes to weigh each draft. I was since informed that this cargo of wheat was weighed out in Buffalo in 100-bushel drafts. If so they must have weighed over 630 drafts to unload the boat, and that it was done in two hours and forty minutes; this would give them 160 minutes to weigh 630 drafts. If so they must have weighed very nearly four drafts a minute during the time of unloading the boat. Now, the weighing of so many drafts adds to the number of chances to make mistakes, and such hurried or rapid work is not as liable to be as well done as it would be if more time was consumed. I think if they would weigh the grain out of the boat in nearly the same sized drafts as it is weighed in at the loading point, and take as much time as is occupied here in loading a boat, these shortages would be very few; of course there is some wasted every time you handle grain, but that is very small.

Yours very truly, D. S. BEALS,
Supt. Detroit Railroad Elevator Company.

SOLD HIMSELF WITH HIS LOAD.

A man sold a load of corn in a town. When it was weighed he slightly stepped on the scales, and then drove off to unload. When the empty wagon was weighed he took good care not to be in it, and congratulated himself that he had cheated the buyer in good shape. The grain dealer called him in, and after figuring up the load paid him in full. As the man buttoned up his coat to go out, the buyer kindly asked him to smoke with him, and then talked over the crops, the price of hogs and the likelihood of the Maple Valley Railroad building up that way, until the man fairly squirmed in his chair with uneasiness about his chores at home. At last he could stand it no longer, and said he must go. The dealer quietly said that was not to be thought of; that he had bought the man at full weight, and paid him his own price, and that he would insist on doing as he pleased with his own property. The man saw that he had, indeed, sold himself, in one sense, at least. He acknowledged his cheating and compromised the affair. Now when he markets grain he does not stand on the scales or sell himself with his load.—*S. S. Messenger.*

WHEAT-RAISING IN INDIA.

The official report of the India wheat crop of this year is that the acreage is 24,983,100, and the yield 6,303,900 tons, or 252,156,000 bushels, the average yield being little over ten bushels to the acre. In the year ending March 31, 1889, the exports of wheat were valued at \$37,600,000. The great wheat-raising districts are the Punjab, the Northwestern provinces and Oudh, and the Central provinces. The exports of last year were smaller than in the previous year, but when a longer period is taken it is found that the progress of the industry has been great. In 1877-8 the export was valued at \$14,300,000, while in 1888-9 it was valued at \$37,600,000, an increase of more than 260 per cent. This growth is due partly to the great attention paid to irrigation and partly to railway building. Since 1878 the mileage of Indian railways has increased from 8,215 to 17,579, of which 16,109 miles were open for traffic on the 31st of March last. More elaborate statistics are given for the previous year, when the mileage was 15,853; the quantity of goods carried, 22,306,188 tons. Railroad building has done much, and is doing much, to remove one of the disadvantages under which India labored in competing with this continent. The yield per acre is still much less than that of the Northern states, but wherever irrigation has been introduced there is an increase both in acreage and yield. Another disadvantage, the want of elevators, is likely soon to disappear, as the government of India is now corresponding with the local governments regarding the expediency of introducing them into the country with a view to cleaning, grading and handling wheat. On the other hand, India has some important advantages over her competitors. The price of labor and the cost of living in India are ridiculously low as compared with the same items here. Altogether, there seems to be good ground for the statement in a memorandum issued by the India Office that "the capabilities of India as a wheat-growing country are only just beginning to be known." The ability of the inhabitants of that country to consume wheat, and the increase in the amount consumed at home, is also attracting more attention than heretofore.

GRAIN HANDLED AT WEST SUPERIOR.

The following is an official statement of the amount of grain handled by West Superior, Wis., elevators of the crop of 1889: Total receipts, 12,914,066 bushels; shipments, 12,671,273 bushels; on hand, 243,813 bushels. Of the receipts there was a total of 9,961,789 bushels of wheat.

The following indicates the amounts and kinds of grain handled at each of the elevator systems at that place: Sawyer system—wheat, receipts, 5,789,278 bushels; oats, receipts, 1,268,293 bushels; corn, receipts, 712,919 bushels; total receipts, 7,770,500 bushels. Great Northern elevator system—wheat, receipts, 4,172,511 bushels; corn, receipts, 900,097 bushels; oats, receipts, 70,058 bushels; total receipts, 5,143,566 bushels. Grand total, 12,914,966 bushels.

Of the total amount shipped, the Sawyer system handled 7,581,014 bushels, and the Great Northern elevator system, 5,090,239 bushels. Total bushels handled for the year: Receipts, 15,914,066 bushels; shipments, 12,612,253 bushels; total, 25,585,319 bushels.

FLAX CULTIVATION.

The successful treatment of flax is too little understood. It requires more care and skillful handling than an oat crop or a corn crop, but repays well for all the attention and proper handling given to it. One necessary thing needed to encourage the growing of flax is a steady market where a reasonably remunerative price may be obtained for both seed and fiber. One great prejudice farmers have entertained against the growing of flax is that it takes the productive power from the earth in a great measure; therefore one crop may not follow another owing to this supposed greatly impoverished condition of the soil. Some persons who have made a study of agricultural chemistry do not so strongly concur in this belief. Liebig remarks that oil is mere carbon, and that the carbonic acid of the atmosphere is entirely capable of supplying all the necessary carbon for the largest crop grown. It is the experience of many farmers that land of proper fertility for other crops will produce a good crop of flax.

SEPTEMBER CROP REPORT.

The government crop report for September shows the condition of cereals worse, as a whole, than was generally expected. A careful computation, based on the reported percentages, shows a probable wheat crop of 244,500,000 bushels winter wheat, 152,725,000 bushels spring wheat, or a total of 397 250,000 bushels. The probable corn crop is 1,545,000,000 bushels, and of oats 525,000,000 bushels. The indications last month were for 412,000,000 bushels of wheat, 1,630,000,000 bushels of corn, and 570,000,000 bushels of oats.

The returns of condition of winter wheat, at the time of harvesting, grew less favorable than those of the first of July. So far as threshing has progressed the results are generally disappointing. The July average was 76.2; the present average 72.5. The general average of spring wheat has also been reduced from 83.2 to 79.8. The average for wheat of both kinds is 75.5. In 1888 the September average for both was 77. It was 73 in 1881. The yield of spring wheat is unusually variable in the Dakotas, ranging from high yields to five bushels and less per acre.

A decline in the condition of corn has occurred in New York, Ohio, Illinois, and in all the Northwestern states, and in some others of less importance. The crop is late in the Eastern states, requiring maturing weather throughout September. It is also late and variable in development in New York and Pennsylvania. The Atlantic coast states return relatively high condition, impaired locally by the effects of midsummer drouth and later storms. In Tennessee, Mississippi, Arkansas and Texas, drouth more or less severe from the 20th of June to the middle of August reduced the condition too low for subsequent recovery, as the crop was maturing or ripe before rains came.

The Ohio Valley and the Missouri Valley report protracted drouth and low condition. While the rains of the last two weeks of August have been beneficial nearly everywhere, they have not always restored the losses of the first half of the month. In the bottom lands, where the growth was maintained, the recent rainfall will make a good crop, while the drier uplands are beyond recovery. The lowest condition is in Kansas, though some of the eastern counties make good returns. The Dakotas and Nebraska are little higher. The crop is late and will require as much time to mature on the latitude of 40 degrees as for the earlier grown on the line of 42 degrees.

The September condition of oats is the lowest ever reported, having fallen from 71.1 in August to 64.4. The rate of yield will be the smallest in twenty years.

Rye yields less than was expected. The condition as reported is reduced to 85.4.

The condition of barley is not very seriously lower—from 82.8 to 78.6.

Buckwheat has fully maintained its August condition, the average being 90.5 against 90.1.

The figures for potatoes have fallen since Aug. 1 from 77.1 to 65.7, the lowest average ever reported, that of 1887 being 67.3.

GRADES OF OATS AT BUFFALO.

The Floor and Grain Inspection Committee of the Buffalo Merchants' Exchange have amended the grades of oats to meet the conditions of the present crop as follows: No. 1 white—Shall be white, sound, clean and reasonably free from other grain and weigh not less than 32 pounds to the measured bushel. No. 2 white—Shall be seven-eighths white, sweet, reasonably clean and reasonably free from other grain, and weigh not less than 28 pounds to the measured bushel. No. 3 white—Shall be seven-eighths white, but not sufficiently sound and clean for No. 2 white, and weigh not less than 23 pounds to the measured bushel. No. 4 white—Shall be three-quarters white, but not sound or heavy enough for No. 3 white. No. 1—Shall be mixed oats, sound, clean, and reasonably free from other grain, and weigh not less than 32 pounds to the measured bushel. No. 2—Shall be sweet and reasonably clean and reasonably free from other grain, and weigh not less than 23 pounds to the measured bushel. No. 3—Shall be all oats that are damp, unsound, dirty, or for any other cause unfit for No. 2. A new grade, No. 4 white, thus has been added to the old list, and limits of weight have been given to the grades. The new oats are quite light in weight generally.

A STANDARD MEAL AND GRAIN DRYER.

The accompanying cut represents the dryer built by Nordyke & Marmon Company, Indianapolis, Ind. This machine has demonstrated that nothing has been omitted in its material parts and construction to make it all that the name implies. It is a duplex cylinder, constructed of boiler iron, with tightly hammered rivets and seams; the inner cylinder is the receptacle for the steam; the outer cylinder contains the grain or meal to be dried. The outer cylinder is covered with wood, neatly finished. Between these cylinders there is a revolving iron reel that keeps the material being dried in motion and from carbonizing on the hot cylinder. An opening on the top of outside cylinder allows the moisture to escape from the material being dried, and will dry grain, meal or any product



containing as high as 20 per cent. of moisture. Is very little expense to set up, a steam cock at head is furnished to receive steam, and cock at tail end to discharge condensed water. Grain is spouted into head and discharged at tail end through iron spouts furnished with the dryer. No leaking of steam, water, or of material being dried, as in other makes of driers. It is automatic.

This machine is recommended for drying meal or grain. For further information, circular and prices, address NORDYKE & MARMON COMPANY, Indianapolis, Ind.

THE GREAT NORTHERN'S OFFENSIVE RULE.

As at Duluth, so at Minneapolis, the Great Northern Railway Company has refused to allow its cars to go to elevators or mills not situated on its tracks, or on other tracks over which it runs its engines. The Grain Receivers' Association of Minneapolis has vigorously protested, but in vain. It sent the following letter to the manager of the railroad company, but still the company refuses to rescind the order:

A. L. Mohler, General Manager Great Northern Railroad Company, St. Paul, Minn.:

Dear Sir: We desire to protest against the enforcement of this order, and would respectfully invite your attention to the following features, showing disastrous effects to result from its enforcement:

It is the experience of the trade that the more opportunities they are given to dispose of their daily receipts the less liability there is of blockade during heavy movement. If you confine our facilities for unloading to the elevator on the road, a blockade is inevitable. It is a self-evident fact that the more buyers we have, the quicker sales can be effected, and more prompt disposition given. It is also a fact that competitive buying enters largely in enabling consignees to obtain the highest market prices. The present wheat crop is a spotted one, fully 80 per cent. of the inspections of new wheat received so far being under No. 1 Northern grade. A large portion of this wheat will have to be handled by the mixing houses, and if you refuse to deliver to them, it will have to be sold at a sacrifice. Of the five elevators on your tracks, but one is a mixing house, with very limited capacity. Of the other twelve elevators, located on tracks of other roads, eleven are mixing houses who have buyers on the market throughout the season. All the other wheat roads allow disposition to be given, sending their cars to any elevator or mill in the city. You can readily see that the wheat from your road is placed at a disadvantage so far as buyers are concerned, as compared with that from the Northern Pacific, Soo, Milwaukee and other competing roads. With circular No. 11 in effect we can obtain from 2 to 5 cents more per bushel for off grade wheat arriving on the other roads than we get for similar wheat from your road.

Your circular states that the object of this order is to facilitate prompt disposition and unloading of your cars.

It is the candid judgment of this organization that it will result in much greater delays than have existed heretofore, and will render dissatisfaction on the part of shippers on your road, both as to prices obtained for their wheat, and additional and unwarranted shortage, insurance and switching charges incurred on same, the result of your order.

The grain receivers are as anxious as the railroad for prompt disposition and unloading of cars, but are confident that the enforcement of circular No. 11 will make matters much worse, and respectfully ask that it be rescinded.

Yours very truly, F. W. COMMONS,
Chairman Committee on Transportation.

The Great Northern officials say that they had provided for several additional elevators this year to accommodate the dealers, and would like to go further, but they cannot revoke the rule on account of the scarcity of cars. It is said that the Sowle Elevator and Elevator A and the Interstate will be the ones used for transfer purposes.



Issued on August 12, 1890.

DRIVE CHAIN.—David J. Sheldrick, Columbus, Ohio, assignor to Joseph A. Jeffrey, same place. (No model.) No. 433,965. Serial No. 349,147. Filed April 23, 1890.

ELEVATOR.—Richard C. Anderson, Pawnee City, Neb. (No model.) No. 434,372. Serial No. 333,764. Filed Dec. 14, 1889.

ELEVATOR FOR GRAIN SEPARATORS.—Stacy B. Hart, Peoria, Ill. (No model.) No. 434,083. Serial No. 311,237. Filed May 13, 1890.

GRAIN SEPARATING SCREEN.—Charles Closs, St. Ansgar, Iowa. (No model.) No. 434,246. Serial No. 351,049. Filed May 8, 1890.

GRAIN SEPARATING SCREEN.—Charles Closs, St. Ansgar, Iowa. (No model.) No. 434,247. Serial No. 351,151. Filed May 9, 1890.

GRAIN SEPARATING SCREEN.—Charles Closs, St. Ansgar, Iowa. (No model.) No. 434,248. Serial No. 321,292. Filed May 10, 1890.

GRAIN SEPARATOR.—Charles Closs, St. Ansgar, Iowa. (No model.) No. 434,249. Serial No. 353,361. Filed May 27, 1890.

BRAKE FOR HORSE POWERS OR SPEED REGULATORS.—Leonidas Gray and Albert Y. Gray, Middletown Springs, Vt. (No model.) No. 434,266. Serial No. 347,852. Filed April 14, 1890.

Issued on August 19, 1890.

BALING PRESS.—John W. Brown and Albert A. Gehrt, Quincy, Ill., assignors to the Collins Plow Company, same place. (No model.) No. 434,760. Serial No. 326,196. Filed Oct. 7, 1889.

BALING PRESS.—John W. Brown and Albert A. Gehrt, Quincy, Ill., assignors to the Collins Plow Company, same place. (No model.) No. 434,761. Serial No. 329,607. Filed Nov. 8, 1889.

BALING PRESS.—John W. Brown and Albert A. Gehrt, Quincy, Ill., assignors to the Collins Plow Company, same place. (No model.) No. 434,762. Serial No. 333,992. Filed Dec. 16, 1889.

BALING PRESS.—Albert A. Gehrt, Quincy, Ill., assignor to the Collins Plow Company, same place. (No model.) No. 434,775. Serial No. 323,238. Filed Sept. 7, 1889.

GRAIN SEPARATOR.—Frederick Strobel, Marion, Ohio, assignor to the Marion Manufacturing Co., same place. (No model.) No. 434,735. Serial No. 351,476. Filed May 12, 1890.

GRAIN MEASURE.—Lycurgus B. Riley, Grafton, Ill. (No model.) No. 434,467. Serial No. 348,926. Filed April 21, 1890.

GRAIN WEIGHER.—Charles H. Cooley and Francis H. Richards, Hartford, Conn., assignors to the Pratt & Whitney Company, same place. (No model.) No. 434,702. Serial No. 340,294. Filed Feb. 13, 1890.

REGULATOR FOR GRAIN WEIGHERS.—Francis H. Richards, Hartford, Conn., assignor to the Pratt & Whitney Company, same place. (No model.) No. 434,723. Serial No. 344,717. Filed March 21, 1890.

Issued on August 26, 1890.

BALE FASTENER.—John M. Ford, Ashland, Ohio. (No model.) No. 435,213. Serial No. 341,658. Filed Feb. 25, 1890.

CAR MOVER.—George W. M. Simms, De Soto, Mo. (No model.) No. 435,326. Serial No. 355,601. Filed June 16, 1890.

GRAIN PACKER AND CARRIER.—William H. Knapp, Galesburg, Mich. (No model.) No. 435,143. Serial No. 344,217. Filed March 17, 1890.

GRAIN SEPARATOR.—Heman A. Barnard, Moline, Ill., assignor to the Barnard & Leas Mfg. Co., same place. (No model.) No. 435,167. Serial No. 332,531. Filed Dec. 4, 1889.

Issued on September 2, 1890.

GRAIN CAR DOOR.—William A. Pungs, Detroit, Mich., assignor to the Metallic Grain Door Company, same place. (No model.) No. 435,533. Serial No. 320,294. Filed Aug. 9, 1889.

SEPARATING GRAIN.—James M. King, Rochester, Minn. (No model.) No. 435,542. Serial No. 349,739. Filed April 23, 1890.

SELF-LUBRICATING PULLEY.—William E. Badger, West Quincy, Mass. (No model.) No. 435,673. Serial No. 343,019. Filed March 7, 1890.

Issued on September 9, 1890.

GRAIN SPOUT.—Stacy B. Hart, Peoria, Ill. (No model.) No. 435,968. Serial No. 337,128. Filed Jan. 16, 1890.

BELT FASTENER.—Lizzie T. Potter, Hartford, Conn. (No model.) No. 435,949. Serial No. 335,384. Filed Dec. 30, 1889.

THE AMERICAN ELEVATOR AND GRAIN TRADE.

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HARLEY B. MITCHELL, - - - Editor.

ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching this trade. Advertising rates made known upon application.

CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

CHICAGO, ILL., SEPTEMBER 15, 1890.

DAKOTA'S ELEVATOR LAWS.

The Legislature of North Dakota passed a number of laws at its last session providing for the regulation and taxation of elevators. Conflicting laws were passed. Public warehouses were defined. It was provided that a county license should be paid for each elevator, and that an annual license fee of \$2.50 per 1,000 bushels' capacity should be paid the state. The charge allowed for storage was fixed at a rate less than the cost of handling, insuring and storing, and wheat stored in a warehouse must be kept in that house for the redemption of certificates.

Another admirable feature of one of the many warehouse laws passed provides that when a farmer delivers wheat under the grade No. 1 hard the elevator man shall indorse on the face of the storage certificate the difference in price between that grade and No. 1 hard that will be paid for the wheat when the farmer chooses to sell it. The difference in the price of different grades is a variable quantity, and such an arrangement would soon break up all the elevator companies in the Northwest. This law is clearly unconstitutional, and with most of the others has been so decided by the attorney general.

As the matter now stands, some of the elevator companies will pay the annual state license fee but give no bonds, and will pay no attention to the other laws. The farmers have never stored much grain in the elevators, most of it being sold outright to the elevator men, but as soon as it was learned that the elevator men would not store grain because the laws made it impossible, they all wanted to store grain.

The annual state license fee is an outrageous imposition, and no elevator man should pay it. They pay full taxes on their property, and that is all that should be required. However, it will eventually be paid by the farmers, for the elevator men will have to make the fee out of the business, and cannot afford to pay as much for grain as heretofore. In reality the state license fee law puts a premium on small houses and track shipping. It shows that the state is opposed to advancement and the provision of better facilities for handling and shipping its grain products.

SHORTAGES — INFORMATION WANTED.

We want grain shippers, every one of you, to inform your brother shippers through our columns just how long you propose to put up with the shortage imposition, and how much longer you will accept anything but a clean bill of lading for your grain.

How much longer will you stand the loss caused by your grain being scattered along the track by leaky cars, or stolen from cars while standing unguarded on the tracks at terminals?

How much longer do you propose to bear the loss of "sweepings" at terminals? For the right to take what grain terminal elevators leave in cars private parties pay a large sum every year.

If you had a clean bill of lading, and the association of which you are a member, or ought to be, made the railroad company deliver the amount stipulated in the bill of lading or pay for the difference, the railroad companies would not try to weigh your grain on unreliable, uncovered track scales, nor accept the terminal elevator weights, if many shortages were reported. The railroad companies would weigh it themselves, and you would thus be saved the amount that is usually deducted at terminal elevators to allow for the shrinkage of your grain during the five or six years it is expected to remain there after its arrival.

Our object in collecting this information is to learn the names of the shippers who propose to fight for the abolition of the shortage imposition from now on, and induce them to join hands and march against a common enemy together, so as to make the expenses of each lighter.

We also want to hear from the shippers who propose to silently allow themselves to be robbed every time they ship grain for the next two, three, four or five years, in order that we may induce them to take the places of fighters who become discouraged or fail in business because they cannot stand the shortage robbery.

We want to know how and when you propose to remedy this great and growing evil that we may help you.

Strong associations, with able, active officers, can, if they work together, soon secure justice from the railroad companies, and make them deliver all the grain received.

REDUCED GRAIN RATES.

At present it looks very much as though the order of the Inter-State Commerce Commission reducing grain rates from the Missouri River east would be enforced. The Rock Island and the Alton have not changed their first decision, which was that they would not only accept the order but would reduce grain rates one cent more than ordered. In spite of the persistent efforts of all the other roads to get them to refuse to reduce rates and fight the order of the Commission these two have remained firm.

On Sept. 9 they gave notice that on the 19th they would make a 19-cent rate on wheat and a 17-cent rate on other grain from Missouri River points to Chicago. If these two roads put these rates into effect other roads will surely have to adopt the same rates at competing points or else let the other roads carry the grain. Some of the roads have concluded that the enforcement of the order is inevitable and have decided to ask the Commission for an extension of time to Oct. 1, so that they may prepare tariff sheets.

Competition will force other roads to adopt the rate at competing points, and under the circumstances there is little probability of their refusing to enforce the rate at all points. A number of

country shippers have been holding grain, waiting for the reduced rates to go into effect, so the reduction will undoubtedly cause an increase in the receipts at grain centers for a time.

PROPOSED INSPECTION AT OMAHA.

The Omaha Board of Trade has declared in favor of a public warehouse law with suitable provisions for grain inspection, and urges voters not to support men not pledged to favor such a law. The Omaha Board of Trade is of course working for what it considers the interest of that city's grain trade. It is a question whether the establishment of a grain inspection department at that city, and the regulation of those elevators the proprietors of which might choose to operate them as public houses, would be of advantage to any one save politicians.

Omaha is not a large distributing point, most of the grain collected there being sent to Chicago, St. Louis and other grain centers for distribution. If grain sent to Omaha for temporary storage must be taxed for inspection and weighing, and docked for future shrinkage, much that is now sent there will be shipped through or else held in the country.

The territory between Omaha and the grain centers of the West produces more than enough of the cereals which Nebraska exports than is needed to supply the home demand, so the grain exported from Nebraska must be shipped past this territory and its grain centers to find a consumer. To compel the unnecessary inspection of that part of Nebraska's grain exports which stops at Omaha will make it necessary for the producer to accept less for his grain. The farmers and dealers outside of Omaha would gain nothing by the enforcement of such a law, and the Omaha dealers would gain little.

UNIFORM BILL OF LADING.

Shippers by organizing and fighting the "non-negotiable" clause in the new uniform bill of lading succeeded in having it eliminated, and by boycotting the roads using the bill they have succeeded in having its use discontinued for shipments from any point where one road refuses to use it. The Grand Trunk and the Wabash refused to use it unless all the roads eastbound from Peoria adopted it, and the Rock Island refused to adopt it unless amended in a manner satisfactory to the shippers.

This gave shippers sending goods east from Chicago a choice of bills of lading, and they showed their preference for the Grand Trunk's old bill of lading by boycotting all roads using the new uniform bill. Several Eastern banking houses also refused to advance money on the new uniform bill of lading, even after the non-negotiable clause had been eliminated, claiming that its value as security was greatly impaired by provisions designed to release the railroad from liability for damage or loss of property during transportation.

It is admitted by all concerned that a uniform bill of lading would be more acceptable than a different form for every road. Shippers would prefer it, but they will not accept every proposition the railroads wish to put in the bills. The Central Traffic Association's committee on uniform bill of lading has been continued, and will make an effort to draft a bill satisfactory to all parties. If they have any regard for the wishes of the other parties to the agreement, they will consult the shippers. Until a satisfactory bill of lading is secured, the shippers should keep up the fight. It is preposterous for railroad companies to try to force shippers to accept a bill of lading which does not guarantee what they pay for—the safe delivery of goods at destination.

HEREAFTER we will publish in each issue of the AMERICAN ELEVATOR AND GRAIN TRADE the names and addresses of the officers of the different grain dealers' associations, and we shall be very thankful to any one sending us the name of an association and its officers.

EXPORTS OF BREADSTUFFS.

The exports of breadstuffs from United States during the first and second months of the present crop year, as reported by the Bureau of Statistics, shows quite a falling off from the exports for the same months last year. During August breadstuffs valued at \$10,700,840 were exported, against \$13,362,776 for the preceding August, and for July and August \$21,434,509, against \$23,169,721 for same months of 1889. During the first eight months of this year breadstuffs valued at \$103,474,192 were exported, against \$80,399,430 for the first eight months of 1889.

Only 5,330,270 bushels of wheat and 2,807,341 bushels of corn were exported during August, against 6,835,033 and 4,992,992 bushels respectively for the preceding August, and during July and August 9,696,824 bushels of wheat and 9,469,385 of corn were exported, against 10,076,428 of wheat, and 11,422,421 of corn for the first two months of the preceding crop year.

During August 55,925 bushels of barley, 28,717 of oats and 143,482 of rye were exported, against 65,521 bushels of barley, 294,372 of oats and 119,671 of rye for August, 1889. The falling off in the exports of oats is remarkable, nearly 600,000 bushels having been exported during last July. The prospects are that the exports of all cereals for the present crop year will fall far below the exports for the last crop year.

TURNING GRAIN DEALERS.

A correspondent of a lumber exchange says: Many retail lumbermen in Kansas have closed their yards for the time and are devoting themselves to the handling of wheat and corn. The rise in the price of corn has tempted many of the lumber dealers to go into the country and buy all the corn in sight. It seems that the lumber business is poor in that state at present, so the dealers propose to buy corn, hold it until the farmers want it and thus make more than they could in the lumber business. One lumber dealer in Southern Kansas is making good collections of long standing accounts by sending an agent through the country and taking every ear of corn the farmer would offer and paying the balance due the farmer in cash. Another lumber dealer is said to have corn cribbed at a number of points and will make a good thing out of it. Of course this is a very nice thing for the lumber dealers of the state but not so good for the grain dealers who find that they have new and inexperienced competitors. However, good prices for farm products will bring about renewed vigor in the building trades and take the lumber dealers back to their old business again.

INCOMPETENT INSPECTORS.

Missouri's state grain inspection department has met with much opposition, and many complaints have been made against the inspection. The latest complaint is made by Peavey & Co., proprietors of the large new elevator at Kansas City. They have notified grain dealers that inspections of Inspector Neal would not be accepted at that elevator, and claim that Neal is not competent to inspect wheat for the markets.

Chief Inspector Martin says Neal is fully capable of discharging his duties in a proper manner, but that does not make it so, and the case will be taken before the Board of Arbitration, which will decide whether or not he is a competent inspector. Other grain dealers at Kansas City claim that Neal is incompetent and holds his place by virtue of political patronage. Until the matter is settled, dealers will be put to considerable trouble, for one-fourth of all the grain handled at that point is inspected by Neal. If the board decides that Neal is competent, it will not help matters any, for Peavey & Co. say that under no circumstances will they accept his inspections.

Competent inspectors are a necessity to public elevator men, for if grain is graded too high by incompetent inspectors, the elevator men may be

called upon to give out better grain when the certificates are presented. Politicians seldom become competent inspectors, and when appealing from their ruling fails to secure justice to shippers and receivers, the course Peavey & Co. have taken is the best one to follow. All inspectors are liable to err, but in this case it seems that Mr. Neal is more liable to err than other inspectors at that point, and of this, Messrs. Peavey & Co., who have had years of experience at a number of different points, are fully convinced.

UNIFORM FREIGHT CLASSIFICATION.

A committee composed of freight agents of the different railroad companies has recently drawn up a new uniform freight classification and rate schedule which will go into effect Jan. 1, if all the roads agree to it. The new classification provides for eleven classes, of which the first five are for less than carloads.

The object of the new classification is to simplify rate schedules and to avoid as much as possible the multiplicity of special commodity tariffs. If the proposed change is made the rate on flour and grain in carload lots from Chicago to New York will be 10 cents less than the rate for less than carload lots.

It is said that the rules will also be changed so as to make the proposed classification contingent on a shipper's acceptance of the terms of the bill of lading. By this the carriers hope to evade the common law liability. If a shipper does not wish to accept a bill of lading relieving the carrier of this liability, his goods will be taken at the rate charged for the next higher class, and the carrier will assume the liability. For assuming this liability the carriers propose to charge more than they do at present and more than their proposed regular rates. Therein lies a point that may break up their scheme. At present they cannot dodge this liability, and it is not probable that they will be permitted to charge more for assuming this liability next year. Shippers will not agree to everything, and their recent victory over the railroad companies will encourage them to oppose anything that is not satisfactory.

Railroad companies should be compelled to give a clean bill of lading and deliver all grain received, or else pay the market price for it. If shippers were awake to their own interest they would organize and secure this which is justly due them.

CORN has been delayed so much of late on its way from Chicago to Philadelphia by way of the lakes and Erie that shippers and receivers are complaining bitterly. They have to pay demurrage for the detention of the Pennsylvania company's cars more than 48 hours, and as they have been losing money by the company's non-delivery of shipments within a reasonable time, they think the railroad company should pay for the detention of the corn. This is reasonable, fair and just, but railroad companies will never agree to it until forced to do so.

THE Kansas and Nebraska Grain Dealers' Elevator Association gives promise of becoming one of the most successful associations ever organized by grain dealers. The officers, committees and members are all working for the advancement of the association, and the membership is growing very rapidly. Some good work is also being done in the interest of members of the association, but more attention will be devoted to this branch of the work as soon as the work of soliciting members is completed. Every grain dealer doing business in either one of these states should take advantage of this opportunity to protect his business and join the association. By united effort dealers can secure just treatment and protect their rights; without it they cannot. It is a duty every grain dealer owes to other dealers, as well as to himself, to join hands with others and help along a common cause.

UNIFORM GRADES.

A bill has been introduced in the House by Congressman Funston, chairman of the Agricultural Committee, instructing the Secretary of Agriculture to establish a standard for classifying and grading grains, and according to such standard to determine and fix such classification and grading of wheat, corn, rye, oats and other grains as the usages of trade warrant and permit, and the standard classification and grades shall be such as in his judgment will best subserve the interest of the public in the conduct of inter-state and foreign trade and commerce in grain, and thirty days after it has been determined upon it shall be held to be the standard in all cases where no other standard has been agreed upon. Such a law can, at least, do no one any harm, and it may do a great good. At a number of points the grades and inspection are not satisfactory and the establishment of United States standard grades may give some relief.

MINNEAPOLIS grain dealers and millers have been having a lively time lately. The Great Northern Railway Company refuses to deliver grain to houses off its own tracks, and all are complaining that the state has let down on the quality of wheat that is allowed to go into the three upper grades. Some propose to refuse to buy No. 1 Northern, except by sample. If the grain handlers are not satisfied with the grading they should appeal from the inspector's decision. When that fails let them combine and fight for the maintenance of the grades.

THE public elevator men of Chicago have once again provided for a winter storage period. In publishing the new rates for the ensuing year they have given notice that the rates will be three-fourths of a cent for the first ten days and one-third for each succeeding ten days, except that the accumulation between the beginning of December and the end of May shall not exceed four cents per bushel. The former period of winter wheat storage was from November 15, to April 15. The new period will be more acceptable to dealers and will undoubtedly result in the storing of more grain for that period than has been stored heretofore.

IN our last issue we gave an account of the burning of the elevator of Crabb & Reynolds at Crawfordsville, Ind. The destruction of the elevator was due in a measure to the failure of the waterworks company to furnish water, and the elevator men have brought suit, in which they allege that the company refused to furnish water to extinguish the fire, according to city ordinance, and consequently they ask for an allowance of \$5,000 out of the water rents. Frequently great losses occur on account of lack of water supply, due in many cases to neglect of duty by officials or employees of a waterworks company. Waterworks companies are clearly liable for loss occasioned by failure to furnish water as agreed and they should be made to pay for their negligence.

AMONG other car service associations which are trying to reduce the time allowed for loading and unloading cars is the Philadelphia association, which recently issued a new order greatly reducing the time. The new rules applied to feed, hay, straw and other merchandise for the handling of which the railroad companies did not provide elevators and warehouses. Railroad companies always take a one-sided view of this demurrage question. Shippers have rights as well as carriers, and fights over the demurrage question usually end in the railroad companies extending the time. In this case the Philadelphia Commercial Exchange is strongly opposing the order, and asks that four full days be allowed for loading and unloading. Four days is a reasonable time. If the railroads desire to keep their cars running all the time let them erect elevators and warehouses at terminals and store this class of merchandise free for the first five or ten days, as they do with other merchandise.

Grain Dealers' Associations.

KANSAS AND NEBRASKA GRAIN DEALERS' ELEVATOR ASSOCIATION.

President, MASON GREGG, Lincoln, Neb.; *Vice-President*, FRANK LOWER, Council Grove, Kan.; *Secretary*, W. T. CAYWOOD, Clifton, Kan.; *Treasurer*, O. A. COOPER, Humboldt, Neb.

GRAIN SHIPPERS' ASSOCIATION OF NORTHWEST IOWA.

President, T. M. C. LOGAN, River Sioux; *Vice-President*, H. HANSON, Odebolt; *Secretary and Treasurer*, F. D. BABCOCK, Ida Grove; *Assistant Secretary*, F. G. BUTLER, Schaller.

Executive Committee, E. A. ABBOTT, Des Moines; J. Y. CAMPFIELD, Sac City, and T. M. CATHCART, Kingsley.

GRAIN DEALERS' ASSOCIATION OF OHIO.

President, J. W. McCORD, Columbus, Ohio; *Vice President*, L. BOGGS, Kingston; *Secretary*, E. C. WAGNER, Columbus; *Treasurer*, D. McALLISTER, Columbus.

Board of Managers, C. D. MILLER, Newark; DILL WEIGAND, South Bloomfield; E. M. BENNETT, JR., Urbana; C. W. PRINGLE, Lilly Chapel, and H. CHAMBERS, Worthington.

Legislative Committee, J. W. McCORD, D. McALLISTER, E. C. WAGNER, W. A. HARDESTY, and E. C. BRACHALL.

ILLINOIS GRAIN MERCHANTS' INSURANCE AND PROTECTIVE SOCIETY.

President, ISAAC VAN ORDSTRAND, Hawarden; *Secretary and General Manager*, S. K. MARSTON, Onarga; *Vice-President*, JOHN STEWART; *Treasurer*, G. C. McFADDEN, Havana.

Executive Committee, S. K. MARSTON, D. H. CURRY and F. M. PRATT.

Committee on Claims, D. M. BRUNER, J. F. ZAHN, H. C. MOWREY.

Committee on Legislation, W. ARMINGTON, V. R. ST. JOHN, C. C. ALDRICH.

Editorial Mention.

THE receivers and shippers of Louisville, Ky., have organized a defensive association for the purpose of doing away with the exactions and arbitrary regulations of the Car Service Bureau. Unreasonable and outrageous demurrage charges are not peacefully accepted as being inevitable at Louisville.

THAT young boys are allowed too much freedom in grain elevators is proved by the fact that so many of them are suffocated in grain bins. It makes no difference whose boy it is, he should not be allowed to turn an elevator into a play house, and it is criminal carelessness for any one to permit a boy to do so.

THE editor of the *Northwestern Farmer* has admitted, in print, that he does not know everything about the grain trade in this country. Now if he will convince his farmer readers that they do not know everything about the trade, he will eradicate an immense amount of discontent and groundless prejudice in the Northwest.

THE Railroad Commission of North Dakota have informed us that owing to the insufficiency of the appropriation, the law passed by the last Legislature providing for the inspection of grain at Grand Forks, Fargo, Wahpeton and Fairmount will not be enforced. This is much better for the grain growers, for the inspection would have been of no benefit to them, yet their grain

would have been taxed for one more inspection on its way to the consumer.

THE persistence and independence with which *The Commercial* of Winnipeg, Man., has denied and picked to pieces the "boom" crop reports sent out from that province commends it to all as being one of the most reliable journals published.

WE would like very much to have Nebraska grain dealers give us their opinions on the proposition of the Omaha Board of Trade to have a law passed providing for the regulation at public elevators and the inspection of grain of that point. Let us have the opinions of every dealer, large or small, in time for publication in our next issue.

OCEAN steamers found it such a difficult matter to obtain freight at Baltimore for the other side recently that three-fourths of a cent per bushel premium was offered for the privilege of taking grain free. If such a thing occurred often our exports of grain would be much larger. Great surplus of shipping room and unusual depression in the demand for room is the cause.

IF the grain shippers of this country had a strong national association, and should refuse to ship a bushel of grain over any road until all were given a clean bill of lading and a guarantee that every bushel received would be delivered at destination by the railroad company or paid for at the market price, it would be granted. Shippers would not have to wait very long for it, either.

THE Car Service Association of Baltimore and Washington, which was formed by the railroads entering these cities, recently gave notice that a minimum charge of \$1 per car would be made for detaining cars a day, or any fraction thereof, after they had been in place for loading 48 hours, or 48 hours after arrival. The order was so strongly opposed by the Baltimore Corn and Flour Exchange that it was withdrawn.

AN agent of an English syndicate has secured an option on a number of elevators at Buffalo, but there is not much probability of the offers being accepted as the prices are said to be so high that it would bankrupt a syndicate to buy even one elevator. However, Buffalo has some old, rotten, ante-dated elevators that could be bought up by a company and the stock floated on the London market at a great profit.

THE compilers of the visible supply have not yet taken to issuing a weekly report of the amount of grain in private elevators. Frequently it has been conclusively shown that such a report would be of great value to dealers. It is not necessary to depend entirely upon the word of the private elevator man. At terminals the reports of the grain inspectors would show near enough the amount in store. It is at least worthy of a trial.

THE proprietors of the large lake vessels are now striving to see which vessel can carry the largest load of corn to Buffalo. The *Emily P. Weed* recently left Chicago with a cargo of 111,000 bushels of corn, which was the largest cargo ever taken out of Chicago, surpassing her previous record by 2,000 bushels. America, which had the best record for some time, has now broken all previous records by taking a cargo of 111,550 bushels.

MINNESOTA grain grades will be the same for the ensuing as for the past crop year. At a recent meeting of the State Railroad and Warehouse Commissioners, letters from two parties in North Dakota were presented, asking that Blue Stem wheat be placed in No. 1 Hard instead of No. 1 Northern. Some changes in the grading of oats were also suggested but the commission after careful consideration decided that it would not be advisable to make any changes. The few com-

plaints against the grades show that the hard work of those connected with the department has been productive of good results.

EVERY member of the Illinois Grain Merchants' Protective and Insurance Society should make a special effort to be present at the next meeting, which will be held in Springfield, at the Leland Hotel, Tuesday, Oct. 7, at 2 P. M. Grain merchants who are not members should make haste and join, for they cannot invest one-tenth the money anywhere else and obtain one-half the returns they will from an active membership in this society.

ARRANGEMENTS are being made to test the legality of North Dakota's seed grain law, which makes the claim for seed grain a tax upon the land if not paid when due, and gives it priority to other incumbrances which might be on the land when the seed is bought. If the law is decided constitutional elevator men who have lost so much by loaning seed wheat to farmers of that state will have nothing to fear from that source in the future.

MICHIGAN millers are dissatisfied with the inspection of grain at Detroit and want the state to control the inspection of grain. At a recent meeting they decided by a large majority in favor of state inspection, and have appointed a committee to bring the matter before the Legislature. Most of the millers of the state and many grain shippers are dissatisfied with the grading at Detroit and will support any move that gives promise of bringing about a change for the better.

A NEW YORK journal devoted to the interests of the railroads thinks all the elevators in the Northwest should be made public elevators. It says "the public must be protected." Such socialistic doctrines well become the long-haired cranks known as farmer agitators, but are entirely out of place in a railway journal. No state legislature has the power to make private elevator owners operate their houses as public elevators, but they can regulate those that are operated as public elevators.

THE shortage in the fruit, vegetable and potato crops will surely increase the consumption of grain, especially corn. The price of grain will also be influenced by the shortage in these crops. Europe and this country are both short on potatoes and Ireland will have a very small crop. The apple and peach crop is less than for a number of years, and the supply of canned goods is unusually small. The deficiency must be made up somewhere and unless wheat gets too high, consumers will depend principally upon that cereal.

THE right of railroad companies to discriminate against timothy seed is doubted by the Alliance Shipping Association of Grand Meadow, Minn., and it has filed a complaint against the Chicago, Milwaukee & St. Paul Railroad with the Inter-State Commerce Commission, claiming that its rate on timothy seed from that place to Chicago is more than its rate on flaxseed and grain. The Inter-State Commerce law forbids such discrimination, so the railroad company will be called upon to reduce its rate on timothy seed.

COMPLAINTS of shortages in grain shipments are becoming more frequent and some of them are unusually large. This is good news for it means that grain shippers are suffering more from the shortage imposition than they can stand and a rebellion will soon follow. A car "said to contain 660 bushels of wheat" arrived at a Toledo elevator some time ago with 265 bushels in it—a shortage of only 395 bushels. There were unmistakable evidences that the wheat had been stolen from the car, but of course the railroad company was not responsible for that. It was a clear case of neglect upon the part of the shipper in putting any grain in the car, especially as he knew he would not be given a clean bill of lading, and he will have to put up with the consequences. If railroad companies had to pay for all grain not delivered

they would see to it that every bushel received was delivered. No change will be made until shippers and receivers combine and demand a clean bill of lading. Railroad managers know the grain will be shipped regardless of the shortages, so will let shippers stand the loss as long as they will.

EVERY year a number of elevators are destroyed by fires which originate in the elevator heads, being caused by heated journals. Frequently the entire cupola of the elevator is on fire before the employes learn that the elevator is on fire. Some protection should be provided against this prolific source of fires. If elevator men would keep barrels of salt water standing in places handy to all journals which are likely to become heated, and provide such places with automatic alarms, we would seldom hear of elevators burning. All elevator heads should be fitted with automatic alarms, which will warn the elevator man whenever the journals in that part of the elevator get above a certain degree of temperature, so that he can get there in time to prevent a fire. The provision of such protection would surely save many elevators and reduce insurance rates.

UNIFORM GRADES OF GRAIN.

A bill was introduced in the House on Monday, says the *Toledo Market Report*, authorizing the Secretary of Agriculture to establish uniform grades of all kinds of grain transported from one state to another, or to any foreign country, which shall be known as American grades. The fact that a man has brains enough to be elected to Congress, by no means proves that he knows all about dry goods or groceries, or the grain trade. The fact is, that this experiment has been tried by the grain exchanges, and found to be impracticable. Why? The Northwest produces peculiar grades of spring wheat, Wisconsin, Iowa and Nebraska another, and entirely distinct variety. Kansas produces a grade of hard winter wheat, worth 3 cents per bushel less than the production of other states. California produces a variety of white, greatly differing from the product this side of the mountains. It is simply impossible.

GALVESTON'S GRAIN TRADE.

We have recently received a neat little pamphlet from parties at Galveston, Tex., which sets forth some of the advantages of that city as a port for exporting grain. From it we take the following:

"The export grain business has not as yet assumed very large proportions. At one elevator, however, the facilities for loading have been so improved as to load a vessel of 1,000 tons in a single day.

"The salt atmosphere of Galveston is favorable to the preservation of grain; and wheat has been stored nine months without damage. A new elevator recently constructed has storage capacity of 400,000 bushels.

"With improved facilities for handling, and the rapidly developing Western country, Galveston may reasonably expect to enter into active competition with New Orleans and other ports, being more nearly situated to the producing sections, build up an immense export grain trade."

FLAX ACREAGE IN THE NORTH-WEST.

The area for growing corn, oats and flax in the Northwest, says the *Minneapolis Record*, has been greatly extended the last year or two, and the prospect for all these is good. A year ago the Northwest raised about four-ninths of all the flax produced in the United States. This year its cultivation has been greatly extended; and there are many fairly well posted people, in its production, that claim the increase in acreage is twice as large as it was a year ago. More conservative ones make the increase 50 per cent., while some say the increase would not reach beyond 30 per cent. In either case the crop is a very important item and is in good condition now. Last year's crop of the Northwest was approximately 4,000,000 bushels. This year indications would give from six to eight million bushels, and if the latter figure would be attained, the flaxseed grown in these three states would come within about 1,000,000 bushels of equaling the total produced in the United States in 1889.

DOTS AND DASHES.

The *Milling News* of Toronto says: An order in council has been passed establishing a No. 3 grade in corn.

It has been reported to the Secretary of Interior that the people of some districts of Oklahoma are in a destitute condition, and that they need seed wheat.

Owing to the high price of corn, alcohol has advanced from 8 to 10 cents since July 12, and it is singular that with their spirits thus rising, liquor dealers should be so depressed.

Canada's barley crop is about 30 per cent. below the average. The demand for it is strong, as dealers desire to get it across the border before the new tariff law goes into effect.

Manitoba Government agents are busily engaged collecting an exhibit of grains and cereals for the Northern Pacific Railway. This will be sent abroad through the States, taking in Illinois and other agricultural states.

The "macers" are already preparing for a legislative campaign against the Chicago stock yards and grain elevator interests. The prospectuses published during the year will be drawn upon for ammunition.—*Chicago Daily Business*.

Centals of wheat shipped to foreign ports from the Columbia River for year ending July 31, 1,747,067, value \$2,203,682; flour, 321,931 barrels, value \$1,168,616. From Tacoma for same period, 1,092,015 centals of wheat, value \$1,385,000.

China proposes to establish a mint and make silver money for its people. This will appreciate the value of silver and help to exterminate the advantage which the exporters of India and Russian goods have over their American competitors.

During the first eight months of this year Chicago received 1,177,000 bushels of flax, against 724,000 bushels for the same months of 1889. The shipments for the same period amounted to 1,292,366 bushels, against 687,211 bushels for the first eight months of 1889.

During August 1,995,903 bushels of wheat; 6,576,326 of corn; 6,898,194 of oats; 288,968 of rye, and 477,633 of barley were received at Chicago, against 3,808,311 bushels of wheat; 11,377,920 of corn; 7,376,720 of oats; 295,498 of rye, and 79,521 of barley for August, 1889.

An English syndicate has purchased land along the Calumet River in South Chicago, and propose to spend \$2,000,000 in the erection of warehouses and elevators. This is a much better plan than the buying of old, tumble-down elevators that have outlived their usefulness.

The congressmen who have been studying the amendment which Mr. Butterworth proposes to offer, have as much trouble in agreeing what it means as the members of the Chicago Board of Trade. The author himself is beginning to wonder what he meant it to mean.—*Toledo Report*.

The Board of Trade of Oswego, N. Y., has sent a communication to Congress claiming that Jerry Rusk's statement in regard to barley was incorrect, and that the country's production of that cereal exceeds the consumption by 15,000,000 bushels. The contrary of Uncle Jerry's statement.

The shipments of grain from Chicago during August included 1,623,152 bushels of wheat; 7,784,710 of corn; 5,831,938 of oats; 111,108 of rye, and 93,364 of barley, against 4,778,961 bushels of wheat; 9,307,324 of corn; 5,802,397 of oats; 202,441 of rye, and 35,830 of barley for August, 1889.

The receipts of spring wheat at Chicago during August amounted to 461 cars, against 385 cars during August, 1889. Of last month's receipts 121 cars graded No. 2; 207 No. 3; 111 No. 4, and 22 cars no grade, against 61 cars No. 2; 124 cars No. 3; 178 No. 4, and 22 cars no grade for August, 1889.

The *Farmers' Review* is busy explaining that its crop figures are not to be taken as published, but as they are intended to mean. This is because they were so much out of the way that other papers showed up their fallacies. The *Review* should send an explanatory diagram with its reports.—*Michigan Farmer*.

Wheat has advanced in this market during the past four months over 16 cents per bushel; corn over 20 cents. In Chicago the advance has been greater. This should be welcome news to the poor farmer, and will no doubt lighten his mortgages, about which we have heard so much.

Never in the history of this country would a day's labor buy so many of its comforts.—*Baltimore Journal of Commerce*.

And now another trust has been sprung upon the American people. It is one that will take the starch out of everything—corn included. It is called the National Starch Manufacturing Company, and has a capital of \$10,500,000. It includes all the principal companies in the country.

An ear of corn on exhibition at San Luis Obispo, Cal., is described as being in the exact form of a human hand; the wrist, palm, thumb and fingers being all perfect. It is covered with small grains to near the tips of the fingers, which are bare prongs of cobs, giving the hand the appearance of being clad in a mitt.

A Mr. Stephenson of Fish Creek, near Calgary, Alberta, has been trying the experiment of sowing cats and barley in the fall with great success. This fall some barley is three feet nine inches high, and was ready to cut while the spring sown grain of the same class was quite green, and promised a lighter yield.

Advices from Duluth, Minn., assert that "new wheat is arriving there at the rate of fifty or sixty cars per day, and though it is a good deal shriveled and pinched it is of bright color and will doubtless make a very strong flour. Very much more, of course, will be taken to make a barrel of flour than of the old crop.

"There is a good deal of humbug in the quantity of grain reported in private elevators throughout the country," says the *Daily Trade Bulletin*. "There is no law compelling owners to make reports, and in many cases they regard it as impertinent to make inquiries about their business, and the stocks given are merely guesses."

A local commission firm "calls attention to the fact that in 1883 we had a killing frost Sept. 22, in 1883 on Sept. 9, in 1886 on Sept. 17, in 1887 again on Sept. 17, and in 1888 on Sept. 13. As the northern tier of corn states have already had temperature near the freezing point, this is a contingency that cannot be prudently overlooked."

A shipment of 8,000 centals rye from San Francisco for Japan by steamer on July 19, is one of the novelties of the day. This is the first consignment of that size that has been made in that direction. It is known that the rice crop in Japan is short, and other food supplies must make good the deficit. Rye can be utilized in that way. It will hardly be substituted for rice to any extent, except as a temporary measure.

We have received a fine sample of this season's wheat, grown on English soil by Mr. J. Stannard of Nayland Mills, Suffolk, from hard Manitoban red Fife wheat seed, the latter grown in the same locality by that gentleman in 1883, and re-sown on Nov. 8, 1889, and cut on the 5th. The sample has, as stated, been sown twice on English soil, and is already of a somewhat softer character than the original seed.—*The Miller, London*.

The English sparrow has arrived in Lincoln in considerable numbers. This pest of the earth, which destroys so much grain in the Eastern localities that farmers cannot raise grain with profit any longer, is here, and here to stay. No means have yet been discovered whereby the scourge may be eliminated, and we fear none will be. We must "grin and bear it." And the grin will be very apparent when the number in this part of the state gets up to the millions, as it surely will.—*Nebraska Farmer*.

State Grain Inspector Clausen stated that he believed that the best estimates put the wheat crop of Minnesota and the Dakotas at 90,000,700 bushels. About 70 per cent. of the grain, in his opinion, owing to the blight, will go No. 1 and No. 2 Northern, and only about 15 per cent No. 1 hard. The remaining 15 per cent. will go into the lower grades. All of the wheat will be good for milling purposes. He predicted that the price of all the grades would average 25 per cent. higher this year than last.

"A chinch bug sat on a potato bug's back, shaking all over with chills; his liver out o' whack, his appetite slack, and he s'gged for some ague pills. 'I'm sick of this weather,' says the old 'tato bug, 'and I feel sorter stiff and sore; I'm weak in the maw, can't wriggle my jaw, oh! I wish I was healthy once more.' The chinch bug cast an eye on the sky, and looked for a change in the moon; when in despair, he said 'I declare! We're going to be sent up the flume.' For in an instant there came a terrible crash down through the wheat and rye; the 'tato and chinch bugs were gone to smash, where they'll ne'er sing 'the sweet by and by.'"—*Enterprise Friend*.

Fires, Casualties, Etc.

W. M. Druly of Druly Bros., grain dealers at Plainfield, Ill., is dead.

S. F. Leonard, grain dealer at Chicago, suffered loss by fire recently.

The Union Elevator at Grafton, S. D., burned Aug. 22. Loss \$10,500.

Guy Wetlauffer was smothered in an oat bin at Waterloo, Ia., Sept. 1.

A grain warehouse at Olympia, Wash., was burned Aug. 8. Loss \$15,000.

John Long, fifteen years old, was suffocated in a bran bin at New Ulm, Minn.

A. J. Torrence of Torrence, Vary & Co., grain dealers at Lynn, Mass., is dead.

Bagley & Cargill's elevator at Grafton, S. D., burned Aug. 22. Loss \$12,000.

Jeffery & Co., grain and coal dealers at Midland, Ont., have sustained loss by fire.

M. H. Wilson of Wilson & Bender, grain and coal dealers at Monticello, Ill., is dead.

The grain warehouse of C. I. & C. R. Simmons at Philadelphia, Pa., was burned Sept. 5. Loss, \$5,000.

A burglar entered Hood's grain warehouse at Knowlsville, N. Y., recently, and took valuable papers from the safe.

Cargill & Co.'s elevator at Arcadia, Wis., containing about 10,000 bushels of wheat, burned Sept. 5. Loss \$20,000.

J. H. Biddle's elevator at Weston, Ohio, burned Aug. 23. Loss on elevator, \$3,000; on contents, \$1,500; insurance, \$4,000.

The Nye & Schneider Company, grain, coal and lumber dealers at Superior, Neb., has sustained loss by fire. Fully insured.

W. R. Miller of Miller & Phelps, grain dealers and millers at Montgomery, Minn., became violently insane in Minneapolis.

The Rich distillery at Uniontown, Ky., burned Sept. 7. The warehouse and granary were saved. Loss \$50,000; insurance \$43,000.

L. G. Beale, a prominent grain dealer, was thrown from his cart and dragged 200 yards near Gilman, Iowa. He was badly hurt.

J. Harry Ward, vice-president of the Baltimore Corn and Flour Exchange, committed suicide Aug. 16 by cutting his throat with a razor.

Kollmer's brewery at Peoria, Ill., was burned on the morning of Sept. 5. Loss \$18,000; insurance \$10,000. The brewery will be rebuilt.

A small building used as a feed room adjacent to Nolte's elevator at Elkhorn, Neb., was burned Aug. 29. The elevator escaped damage.

Charley Pemberton, son of a grain dealer at Albion, Iowa, was accidentally shot by a companion at short range Aug. 23. The wound was expected to prove fatal.

Hall's elevator and grist mill at Hudson, Wis., were totally destroyed by fire Aug. 15. Loss, \$7,000; insurance, \$2,500. It was caused by a stroke of lightning.

The Kentucky Distillery at Louisville, Ky., owned by Julius Barkhouse & Co., was burned Aug. 14. Loss, \$800,000; to government, \$980,000. Insurance, about \$700,000.

Mr. Russell L. Engs, member of the grain export firm of R. L. Engs & Co. of New York City, died recently of a complication of diseases from which he had been suffering many years.

J. L. Schring's grain elevator at Kalamazoo, Mich., burned Aug. 13, together with 20,000 bushels of wheat. Loss on elevator \$10,000; insurance \$8,000. Loss on wheat \$17,000; not insured.

Sidney B. Johnston's elevator in Chicago, on Forty-seventh street and the Wabash Railroad tracks, was burned Aug. 22. The building, a three-story wooden one, was totally destroyed. Loss \$7,000.

At 5 o'clock Sept. 9 fire broke out in the old O. L. C. elevator at Ogdensburg, N. Y. The steamboats Langdon, Pridgeon and Pickands were alongside the dock, but got away without damage. The elevator and its contents—450,000 bushels of grain—were destroyed. Loss on building, \$150,000; on grain, about \$350,000. The building is fully covered by insurance.

Martin Cochran, in the employ of the Twin City Packing Company, was seriously hurt at Elevator "A" in St. Paul, Minn., Sept. 9. Cochran was standing near a wagon loaded with sacks of screenings, when the driver

of the wagon started, and in attempting to make a short turn, upset the wagon, burying Cochran under the heavy load of screenings. When extricated, Cochran was insensible, and he was taken to the city hospital.

William Carey, a prominent grain dealer of Ottawa, Ill., died Sept. 2 at the age of 49 years. He located at Ottawa in 1859. In his business he had the confidence of the farming community, and accumulated a fortune of \$100,000.

The elevator and warehouse of the Aberdeen Roller Mills at Aberdeen, S. Dak., were destroyed by fire Aug. 24. Fifteen thousand bushels of wheat and two carloads of flour were burned. Loss, \$25,000. The cause was spontaneous combustion.

Louville Sutherland, ten years old, was smothered to death in George M. McCormick & Co.'s elevator at Minneapolis, Minn., Aug. 27. He climbed into a wheat bin from which a car was being loaded, and was carried down the spout and buried under the grain.

R. D. Hubbard & Co.'s wheat elevator at Mankato, Minn., burned Aug. 31. Loss on building, \$20,000; insurance, \$10,000. The contents—40,000 bushels of wheat—were fully covered by insurance. The fire started in the cupola, from friction, or spontaneous combustion.

A. A. Beckwith's grain elevator at Norwich, Conn., containing 30,000 bushels of corn and oats, thirty tons of hay, and a large stock of flour and feed, was destroyed by fire on the afternoon of Aug. 15. The fire was started by a spark from a chimney. Loss \$35,000; insurance \$11,000.

PERSONAL

Mr. J. F. Low, St. Cloud, Minn., has gone to Milton, N. Dak., to take charge of an elevator.

A. A. Atkinson, the popular grain man, has, says the *Winnipeg Commercial*, returned from his long visit East, and is receiving the congratulations of his friends over his matrimonial venture.

Edward S. Easton, a wealthy grain man of Peoria, Ill., has, says a correspondent, done more to beautify the city than any other citizen.

William Hamilton, the veteran merchant of Caledonia, N. Y., who went to Scotland some time ago for his health, is reported to have greatly improved.

PER CAPITA CONSUMPTION.

Either Europeans have not half enough to eat, we are a race of gormandizers, or Statistician Dodge is mistaken.

In an address by Mr. J. R. Dodge, Statistician of the Department of Agriculture, at Indianapolis recently, on the "Highest Standard of Living," he stated—and it is well worth noting, says *Bradstreet's*, for the facts have not been regarded as established—that "the average consumption of meat in the United States is probably not less than 175 pounds per annum. Of other civilized nations only Great Britain exceeds 100, and many of them scarcely average 50 pounds. The consumption of the cereals by man and beast is three times as much in proportion to population as in Europe. For the past ten years the average has been 45 bushels for each unit of population, while the usual European consumption does not vary greatly from 16 bushels per capita. The average consumption of wheat for bread is nearly 5 bushels, and about 3 bushels of maize, and 1 bushel of oats and rye, or approximately 9 bushels for each inhabitant." So far as the consumption of meat is concerned, we have no data or opinions to offer; but so far as the average annual consumption of wheat per capita is concerned, it is quite within bounds to question these assertions. To begin with, the Agricultural Statistical Department, at the head of which is Mr. Dodge, reports a crop of wheat for 1889 of say 490,000,000 bushels. It also reports a reserve carried over on the 1st of July, 1890; conclusion, the total of the domestic consumption and exports amounted to the difference. The total of exports is known with more or less exactness, so that the inference is made that the home consumption is the difference between the remainder and the aggregate of wheat (and flour as wheat) exported. But suppose for a moment that the size of the crop is inaccurately reported, where does the whole solution land? If the crop totals are not accurate, or aggregates of reserves are not reasonably exact, the calculated annual average consumption of wheat per capita becomes valueless.

ONCE again the British are after Milwaukee flouring mill property, and an agent has been seeking options on the different plants.

THE EXCHANGES.

Portland, Ore., is to have a \$500,000 Chamber of Commerce building.

Chicago Board of Trade memberships are strong at \$1,150, with five buyers to one seller.

Tickets of membership to the New York Produce Exchange have been quiet at \$750.

An effort is being made to have the telegraph offices reinstated in their old places on the floor of the Chicago Board of Trade.

The Indianapolis Board of Trade has selected D. P. Irwin to represent that body on the National Transportation Committee.

The secretary of the Toronto Board of Trade has invited the Boards of Trade of Manitoba and the Northwest Territories to appoint delegates to a meeting at Toronto Oct. 1, to establish grain standards.

Schroeder, the Kansas City bucket-shop man, has gained admission to the trading floor of the Chicago Board of Trade several times of late, but has been promptly invited to leave by the floor committee.

Once again Secretary Stone of the Chicago Board of Trade has announced to the members on the floor that the directors will take active measures to discipline all curb traders. What appears very much like curb trading is going on just the same.

The members of the Buffalo Merchants' Exchange have agreed that "prompt shipment" should mean not over ten days, and that "immediate shipment" should mean not over five days in the shipment of grain when sold "c. l. f." without any time being specified.

A prominent wheat broker was summoned before the directors of the Chicago Board of Trade recently for "raiding" the market. It was charged that he offered and sold wheat at \$1 when \$1.00½ was bid, with intent to demoralize the market.

Every member of the House of Representatives was recently presented with a copy of the memorial of the Chicago Board of Trade protesting against the passage of the Butterworth Anti-Option Bill. Its reading produced a marked effect on many who then appreciated for the first time the arguments against the bill.

Members of the New York Produce Exchange connected with the grain trade have agreed not to do any more "curb" trading, but to close all transactions at 2:45 P. M. At a meeting of the Grain Commission Merchants' Protective Association recently, it was resolved to recommend penalties that will enforce the rule.

The New York Stock Exchange commenced Sept. 1 to furnish its own members a prompt quotation service over its own tickers. The public and bucket shops will be supplied with quotations by a slower service. This will go hard with the bucket shops. The Chicago Board of Trade tried to accomplish virtually the same thing, but the courts interfered.

On Tuesday, Sept. 9, the Cincinnati Chamber of Commerce elected officers. Three tickets were in the field, some from each being elected. The following were the successful candidates: President, Lowe Emerson; vice-president, Ralph Peters; treasurer, Samuel W. Ramp; secretary, N. R. Adriance; directors, B. F. Haughton, J. M. Kennedy, Dawson Blackmore, F. A. Rothier, H. L. Laws; board of real state managers, John Grubb. Directors holding over are: S. J. Hale, Wm. Montgomery, George F. Munson, E. Senior, Robert Laidlaw; vice-president, J. R. Brown.

The rules of the Baltimore Corn and Flour Exchange provides that the terms "immediate shipment," when used in the purchase and sale of grain and other merchandise, is understood to mean shipment within three days, Sundays and holidays excepted, and that "prompt shipment" is held to mean shipment within ten days. When grain, feed, hay or other merchandise is sold "to arrive" by sample or by description for "track" delivery, the seller is bound to deliver the goods, unless voluntarily released from this obligation by the purchaser, or unless otherwise agreed upon at the time of sale.

Eastern people and Eastern papers that have been having so much to say falsely about the sad condition of Western farmers might study to advantage the reports of various loan companies in the West. Take as an example of all, the report of the Equitable Trust Company, Omaha. It showed that 178 Nebraska farm loans aggregating \$160 were due a short time ago, and the company offered to renew at 7 per cent. Nevertheless 101 were paid in full, six in part, and only seventy-one remained on the company's books for the full amount. What do our Eastern friends think of this? Does it look like our farmers are suffering, or as if they have to struggle under a load of usurious interest?—*Farm Implement News*.

THE LAW.

Local Usage—Contract.

In the suit of the Globe Milling Company of Wisconsin vs. the Minneapolis Elevator Company, the State Supreme Court decides "that in case of the sale and delivery by the owner of personal property, although he may have been induced to make it by fraud on the part of the vendee, the latter may convey a good title to a bona fide purchaser, does not apply to a case where the second purchaser does not rely on or know of any indicia of title with which the first vendor may have invested the first purchaser. Certain evidence considered and held not sufficient to show a waiver by a vendor of personal property for cash on delivery, of payment of the purchase price as a condition of the title passing. A local usage can not be proved to contradict a contract, nor to subvert a well-settled rule of law." This is a victory for the Minneapolis Elevator Company, the appeal having been made by the plaintiff.

Carriers' Liability—Negligence.

The Supreme Court of Illinois, in the recent case of the Chicago & Northwestern Railway Company vs. Chapman, while holding that a railway carrier in many respects may, by express contract, limit its strict common law liability; as, for example, it may by special contract limit its liability to such damage or loss as may occur on its own line of carriage, and against loss by fire without its fault; and its liability may thus be limited as an insurer and against other loss not attributed to its negligence or that of its servants, and it may require the value of goods offered for transportation to be fixed by the shipper to protect itself against fraud in case of loss—yet held that in Illinois a common carrier cannot, even by express contract, exempt itself from liability resulting from gross negligence or willful misconduct committed by itself or its servants or employees; nor can it limit its liability in amount as against damages resulting from such negligence.

Infringement of Patent on Corn Shellers.

Letters patent issued Oct. 15, 1872, to Henry A. Adams for an improvement in corn shellers, consisting of the combination with the corn sheller of a series of wings, wheels or projections so arranged on a shaft as to revolve in the direction in which the corn is running, and to force into the sheller all misplaced ears, are infringed by a device which substitutes for the round shaft with its projections a square shaft so grooved as to make the four projecting corners do the same work as the projections on the other shaft. In taking an account of profits made by the infringers of a patent, where the complainant shows what profits were made by manufacturers of the patented article, which is substantially the same as the infringing device, and the defendant offers no proof as to his actual profits, a finding that defendant's profit on each machine was the same as that of the other manufacturers is proper.—*Adams vs. Keystone Manufacturing Company, Circuit Court of the United States, Northern District of Illinois. 41 Fed. Rep. 595.*

Unincorporated Bodies—Membership.

An important decision regarding the extent of the control of unincorporated associations over their members was rendered by the New York Court of Appeals in the case of Lewis vs. Wilson. The suit was brought by the plaintiff, a suspended member of the Consolidated Stock and Petroleum Exchange, against the defendant as president of that body, for damages for expulsion and to compel his reinstatement as a member of the Exchange. It appeared that the plaintiff had refused to pay a certain sum alleged to be due another member of the Exchange under the terms of a contract between them. Charges were preferred against the plaintiff, and a hearing was had before a committee of the Exchange, who found against the plaintiff. Upon his continued refusal to pay, he was suspended. He brought suit, claiming that the committee had not the power to discipline him for the offense alleged, for the reason that the failure to pay under the circumstances did not constitute a legal debt. The Court of Appeals decided in favor of the Exchange, holding that the nature of the debt or contract was immaterial as far as the action of the association toward its members was concerned, and that it was simply requisite to prove that it had proceeded in accordance with its own established rules.

Bill of Lading—Check—Payment.

The following points were decided by the Supreme Court of Minnesota in the case of the National Bank of Commerce vs. the Chicago, Burlington & Northern Railway Company, and three other cases involving the same transaction, viz.: (1) A check on a bank is not payment, but is only so when the money is received on it, and there is no presumption that a creditor takes a check in absolute payment arising from the mere fact that he accepts it from a debtor. (2) Where goods are sold for cash on delivery, and payment is made by the purchaser by check on his banker, such payment is only conditional, and the delivery of the goods also only conditional, and

if the check on due presentation is dishonored, the vendor may retake the goods, even from an innocent subvendee for value, unless he has been guilty of such negligence or laches as would equitably estop him from so doing. (3) A bill of lading issued by a station or shipping agent of a railroad company or other common carrier, without receiving the goods named in it for transportation, imposes no liability upon the carrier even to an innocent consignee, or indorsee for value, and the carrier is not estopped by the statements in the bill from showing that no goods were in fact received for transportation. (4) The fact that the goods were taken from the possession of the carrier by one having title paramount to that of the consignor is a good defense to an action by the consignee or indorser of the bill of lading for the non-delivery of the property.

WATERWAYS.

During July the Canal Forwarders' Association loaded 800 boats at Buffalo, against 500 during July, 1889.

Several cargoes of wheat recently shipped from Milwaukee are said to have run short at Buffalo, the A. P. Wright being short 160 bushels.

The Marine Board of Underwriters has advanced insurance rates to 40 cents to lakes Erie and Huron, 50 cents to Ogdensburg, and 75 cents to Montreal.

The House Committee on Commerce has made an adverse report on the bill to repeal the act incorporating the Maritime Canal Company of Nicaragua.

The new steamer Emily P. Weed was chartered in Chicago recently to load 110,000 bushels of corn for Buffalo at 1½ cents. This is the largest load of corn ever taken.

Not long ago the Florida's cargo of corn from Chicago was found to be 818 bushels short at Buffalo, but as over 400 bushels were wet by bilge water, the actual shortage was only 400 bushels.

There is quite a demand for tonnage from Port Arthur to carry barley to Buffalo at 1½ cents, but as the grain is in small jags, considerable difficulty is being experienced in securing the room required.

One day recently five Canadian vessels arrived at Chicago within an hour, all hailing from St. Catharines, Ont., and all were after grain cargoes. This is said to be the largest fleet of Canadian vessels that ever made this port at the same time.

The propeller T. D. Livingston ran into the head gates of lock 18 in the Welland Canal Sept. 1, and broke them down, also the lower gates. The damage was about \$5,000. The lock was repaired, and opened for traffic three days afterward.

The tonnage of the vessels built in the United States in 1889 was as follows: On the entire seaboard, 111,852; on the Northern lakes, 107,080; on the Western rivers, 12,202; the proportion of those built on the Northern lakes being over 49 per cent. of the whole.

During the fiscal year ending June 30, 1890, the Sault Ste. Marie Canal gave passage to 10,108 vessels, of which 6,806 were steam vessels and 2,834 were sailing vessels. The freight carried included 19,459,796 bushels of wheat, 2,732,698 bushels of other grains, and 2,592,736 barrels of flour.

For several years past the steam barge Onoko has carried the "broom" for having taken the largest cargo of wheat from this port, but she may now have to haul it down and hand it over to the new barge Emily P. Weed, which cleared for Buffalo last week with 94,052 bushels of wheat.—*Duluth News.*

The steel steamship Emily P. Weed, says the Buffalo correspondent of the *Marine Record*, discharged at the Bennett Elevator 109,049 bushels of corn—49 bushels more than her bill of lading called for. She was drawing about 16 feet on arrival. This is the largest grain cargo ever carried on the lakes. In 1882 the Onoko brought 108,000 bushels of corn, and in 1884 100,000 bushels of wheat. The America last year delivered here 107,921 bushels of corn.

An effort is to be made to recommence work on the Panama Canal, and the Colombian Government has passed to the Senate the petition of Lieut. Wise, the Panama Canal Company commissioner who recently arrived from Paris. Lieut. Wise asks for six years' prolongation of the canal company's concession without recompense, and that the government concede to the company 10,000 hectares of land for the lake which is to be formed by the Cyagres River, the government receiving 12,000,000 francs, which sum the company will pay in installments. Nothing more is offered.

The annual report of the canal statistics for 1889 issued by the Canadian Government shows that the greater proportion of the traffic that passed through the Welland Canal last year was bound from one United States port to another. The quantity of grain passing down the Welland Canal from one American port to another increased from 42,000 tons in 1880 to 213,000 tons in 1889, whereas, notwithstanding the abolition of tolls upon east-bound Canadian canals, the quantity of grain that reached Mon-

treau by way of the canal last year was 267,769 tons, as compared with 333,806 tons in 1880.

The Bureau of Statistics shows "tons entered and cleared" in the foreign trade at seaports in the United States in 1888 as 23,510,589, while the tonnage of the St. Mary's for 1889 is nearly one-third of this amount.

Few people who live at a distance from the Great Lakes have an adequate conception of the magnitude of their commerce. It will surprise them, perhaps, to learn that during 234 days of navigation last year tonnage passed through the Detroit River to the amount of 10,000,000 tons more than the entries and clearances of all the seaports in the United States, and 3,000,000 tons more than the combined foreign and coastwise shipping of Liverpool and London. Nor does this include traffic between lakes Superior and Michigan, or lakes Erie and Ontario, or local traffic between ports on these lakes.—*Bradstreet's.*

Mr. Telford Burnham of Chicago has gone East for the purpose of studying the watercourses between Chicago and the Atlantic Ocean in reference to deepening the channels. His ultimate object is to secure an outlet for large vessels from Lake Michigan through to Toledo, Ohio, and thus shorten the route to the ocean by 500 miles. He considers Chicago the great distributing point of the continent, and if a condition can be brought about whereby this city can be made a great receiving and distributing point for all sections, this will be the largest city in the world. This has been a favorite project with Mr. Burnham for some time.

There is a report current at the national capital that President Harrison a few days ago said to a Senator that he hoped the River and Harbor Bill would come to him with the Hennepin Canal project stricken out, and intimated that it would be wise for the friends of the measure to see to it that this was done. While the appropriation contained in this item is only \$500,000, it commits the government to an expense of \$6,000,000 to complete the project. It is to this, it is said, that the President objects. The advocates of the canal—and they are numerous in both houses—insist that the bill shall not come out of the Conference Committee if the canal project is rejected.

The Canadian Sault Ste. Marie Canal is being constructed on the Canadian side of the River St. Mary, between lakes Huron and Superior, being formed through St. Mary's Island on the north side of the rapids. The distance across the island is about two-thirds of a mile. The canal will have a mean width of 150 feet, and a depth of 18 feet below the lowest known water line of that part of the river. The difference in level will be overcome by one lock 600 feet in length and 85 feet in width, having guard gates at both ends facing in opposite directions. These gates are to be worked by "hydraulic power," the water being admitted or withdrawn at the door of the lock. The contracts require the whole work to be completed and ready for use in May, 1892.

Capt. W. L. Marshall, U. S. A., in charge of the river and harbor improvements at Chicago, in a recent report recommends that the government abandon the work in the outer harbor. He says: "The purposes of this outer harbor have never been realized, due to the litigation attending the determination of the question of riparian ownership rights. No wharves or docks have been constructed, and the breakwaters serve only the purpose of protecting the Illinois Central Railroad docks and right of way, and affording a still-water basin for pleasure boats, etc. Its importance as a harbor of refuge has been diminished since the construction of the exterior breakwater north of the entrance to the Chicago River. Vessels can now enter the mouth of the Chicago River whenever they can enter the basin."

Improvements in waterways effect more than the reduction of rates on freight carried through them. They tend to lower railroad rates throughout the entire country, since all rates are in a measure competitive and all rail rates are based more or less on water rates. The territory tributary to the Great Lakes system, it is estimated, annually aggregates through the receipts and shipments of its different lake ports a commercial traffic of over \$1,000,000,000, the city of Chicago alone exchanging by this water route in 1888 products of the value of \$174,374,843. That this traffic is carried on between ports on the different lakes of the system, thereby increasing the total, does not lessen its commercial advantage in comparison with foreign commerce. Traffic of this magnitude is entitled to the best facilities of passage.

The Nicaragua Canal Construction Company has purchased the plant of the American Contract and Dredging Company, formerly used on the works of the Panama Canal. The purchase includes seven dredges, fifteen lighters, several tug boats, and the machine shops, with all their machinery, tools, and supplies of every kind complete. The entire plant is now being rapidly put in order for removal to Greytown. This plant did the greatest part of the effective work accomplished upon the Panama Canal, and the dredges are of exceptional power and capability. Monthly reports of service show that three of them excavated an average of 150,000 cubic meters per month, and one of them, the most powerful, excavated in one month 257,000 cubic meters. These powerful dredges are to be used in harbor dredging, and in excavating the first ten miles of the canal, from its mouth to the first lock.

The broom-corn cutters of Coles and Douglas counties, Ill., numbering about 1,000 men, have struck for an increase of 25 cents a day in their wages.



A brewery will be erected at Evansville, Ind.
 Britton, Mich., will soon have a grain elevator.
 A broom factory has been built at Atlanta, Ga.
 A grain elevator is being built at Aiamosa, Colo.
 A grain elevator will be built at Cartwright, Man.
 Martin Blum will build a brewery at Lebanon, Ky.
 M. Sheehan is building an elevator at Graceville, Minn.
 A grain elevator is being built at North St. Louis, Mo.
 W. C. Brooks has erected a grain elevator at Cuba City, Ill.
 A large grain elevator is being erected at East St. Louis, Ill.
 G. P. Chessman, grain dealer at York, Neb., has sold out.
 A brewery will be built at Golden, Cal., by S. Hartman.
 A grain elevator has been erected at Wichita Falls, Tex.
 Martin Bros. will build a grain elevator at Mt. Forest, Ont.
 F. H. Bain will build a broom factory at Goldsborough, N. C.
 Two new grain elevators are being built at Hartley, Iowa.
 A brewery to cost \$90,000 will be built at Chattanooga, Tenn.
 W. H. Holland & Sons will build a brewery at Detroit, Mich.
 The large flax elevator at Fort Dodge, Iowa, is completed.
 The grain elevator at Garretson, Dak., has been completed.
 The Exchange Elevator at Buffalo, N. Y., is completed.
 The Tarboro Oil Mill at Tarboro, N. C., is being improved.
 A grain elevator is to be built at Manson, Iowa, to cost \$4,000.
 The Illinois Brewing Company will build a brewery at Chicago.
 A new grain elevator is being built at Greenville Junction, Me.
 L. F. Patillo has completed a broom factory at Maysville, Ga.
 Two cotton-seed oil mills are being erected at Ninety Six, N. C.
 The broom factory at Arcadia, Neb., has recommenced operations.
 The 5,000-bushel elevator at Eagle Lake, Minn., is completed.
 Ogilvie & Co. will erect a third grain elevator at Carman, Man.
 Horn & Schwalm will enlarge their brewery at Oshkosh, Wis.
 A brewery will be built at New Athens, Ill., by Ambrose Roth.
 W. W. Reynolds is building a grain elevator at Lake Mills, Iowa.
 Francis Bros. are erecting a grain warehouse at Poplar Point, Man.
 A brewery is to be built at Ventura, Cal., by Herman Koenemann.
 Wm. Thatcher is erecting a large cotton-seed oil mill at Belton, Tex.
 John F. Demarris, grain dealer at Alexander, Iowa, has sold out.
 C. Fromm contemplates erecting a broom factory at Shelby, N. C.
 A stock company will erect a cotton-seed oil mill at Abilene, Tex.
 A brewery will be built at Great Falls, Mont., by Andrew Johnson.
 George P. Burgwyn will build a cotton-seed oil mill at Jackson, N. C.
 The Wolfe City Cotton-seed Oil Mill at Wolfe, Tex., is being enlarged.
 The Maple Leaf Elevator Company has been incorporated at Woodruff, Platte county, Mo., with \$6,000 capi-

ital. Incorporators, B. R. Beall, H. E. Miller and E. S. Thomas.

Schwab & Pope's new elevator at Holstein, Neb., is now completed.

Hoover & Bonham are building a 15,000-bushel elevator at Halsted, Kan.

A stock company will be organized to build a brewery at Americus, Ga.

The Texas Brewing Company will build a brewery at Fort Worth, Tex.

A brewery will be erected at Jackson, Minn., by Cornelius G. Gilmore.

Johnson Bros. of Wilton, Iowa, will build a grain warehouse at Attalissa.

J. F. McCarty intends to establish a cotton-seed oil mill at Comanche, Tex.

A new grain elevator is to be built at Stockton, Ill., by Minneapolis parties.

The Charles T. Ogren Brewing Company will build a brewery at Chicago.

Hayes & Son, grain and lumber dealers at Wayland, Iowa, have sold out.

Mr. Rowe of Wilton, Iowa, is erecting a new office and putting in new scales.

Henry C. Moffatt will erect a malt elevator and malt kiln at Buffalo, N. Y.

The Algiers Brewing Company has purchased a site for \$2,500 in Algiers, La.

H. H. Rowland will erect an oil mill and fertilizer factory at Tyler, Tex.

A grain warehouse of 40,000 bushels' capacity is being built at Clarion, Iowa.

H. K. W. Cheders has established the Veteran Broom Works at Atlanta, Ga.

The Baltimore Cotton-seed Oil Mill is rebuilding its works at Canton, Md.

Barber & Kneesaw, grain dealers at Wilcox, Neb., have dissolved partnership.

A stock company to erect a \$40,000 distillery is talked of at Greenville, S. C.

The Brenham Compress Company has bought the oil mill at Brenham, Tex.

The Ontario Elevator at Buffalo, N. Y., has received its first cargo of grain.

The Scranton Brewing Company will enlarge its brewery at Scranton, Pa.

The Plattsburg Brewing Company will build a brewery at Plattsburg, N. Y.

D. C. Imboden, a prominent grain dealer of Kansas City, Mo., failed Sept. 1.

A steam elevator with a capacity of 10,000 bushels is to be built at Jackson, Neb.

Lacoste & Prefontaine, grain dealers at Montreal, Que., have dissolved partnership.

A. D. Thompson & Co., grain dealers at Montreal, Que., have dissolved partnership.

Mr. Zimmerlee has leased the Rock Hill Cotton-Seed Oil Mill at Rock Hill, S. C.

A Philadelphia syndicate has purchased J. G. Roach's distillery at Uniontown, Ky.

The Rich Grain Distillery Company will enlarge its distillery at Morganfield, Ky.

J. S. Crerar and Buchanan & Co. are erecting grain warehouses at Saltoats, Man.

The Farmers' Warehouse Company will build a grain warehouse at Garfield, Wash.

Chris Wahl, proprietor of the Columbus Brewery at Sacramento, Cal., has sold out.

The Wolfe City Oil Company is enlarging its cotton-seed oil mill at Wolfe City, Tex.

The Fitzgerald Brewing Company is enlarging its brewery at College Point, N. Y.

A brewery will be erected at Birmingham, Ala., by the Birmingham Brewing Company.

Thorn & Southall will build a stone elevator and a brick distillery at Louisville, Ky.

Albert Carey has purchased Henry Raabe's brewery at Washington, D. C., for \$112,000.

Several elevators are being built at Hartney, Man., on the Souris branch of the C. P. R.

A new elevator is being erected at Argentine, Kan., by Barnett & Record of Minneapolis.

It is reported that an English syndicate has purchased three breweries at Covington, Ky.

The Schoenhofen Brewing Company will erect an 80,000-bushel elevator in Chicago.

Barnett & Record, grain elevator builders of Minneapolis, are building an annex to the City Elevator Com-

pany's house on the Minneapolis & St. Louis tracks in Minneapolis, Minn.

The Paterson Consolidated Brewing Company will build a brewery at Paterson, N. J.

A stock company will probably be organized to erect a cotton-seed oil mill at Aiken, S. C.

The Lake of the Woods Milling Company is erecting a 35,000-bushel elevator at Virden, Man.

The Cincinnati Elevator Company at Cincinnati, Ohio, has passed into the hands of a receiver.

C. Baumgarten of Shulenberg, and others, will erect a cotton-seed oil mill at Hempstead, Tex.

Bedilion & Co. are erecting a grain elevator of 30,000 bushels' capacity at Elm Grove, W. Va.

A brewery will be built at Chattanooga, Tenn., by the Chattanooga Ice and Bottling Company.

A grain elevator with a capacity of 200,000 bushels is in process of erection at Memphis, Tenn.

John Schneider & Co., grain and stock buyers at Fenimore, Wis., have dissolved partnership.

The grain elevator at Hay Springs, Neb., with a capacity of 15,500 bushels, has been completed.

The Eagle Brewing Company has been incorporated at Chicago, with a capital stock of \$150,000.

Barnes & Adams, grain dealers of Minneapolis, Minn., have been succeeded by Barnes & Nicholls.

A grain storage company has been organized at Johnson, Wash., with a capital stock of \$5,000.

The Kaw Elevator Company has been incorporated at Kansas City, Mo., with a capital of \$25,000.

The Southern Distilling Company has been incorporated at Dallas, Tex., with \$150,000 capital stock.

The Lake of the Woods Milling Company's new elevator at Griswold, Man., is almost completed.

The factory of the American Glucose Company at Leavenworth, Kan., is now in full operation.

The Goebel Brewing Company has been incorporated at Detroit, Mich., with a capital of \$300,000.

The Engessor Brewing Company will be incorporated at St. Peter, Minn., with a capital of \$100,000.

The Montreal Transportation Company's new elevator at Kingston, Ont., has commenced operations.

Warner Bros. of Halfmoon, N. Y., have leased the old Gould Opera House at Ballston for a brewery.

H. T. Hoyle & Bro., dealers in grain, wool and hides at Belton, Tex., have removed to Dallas, Tex.

Clement & Parker, grain dealers at Minneapolis, Minn., have been succeeded by Clement, Parker & Co.

Gilpin Bros., grain dealers at Philadelphia, have dissolved partnership. Samuel B. Gilpin succeeds.

W. R. Austin, grain and produce dealer at Westminster, B. C., has sold out to Calhoun & Steves.

The firm of Moore, Hull & Co., grain dealers at Savannah, Ga., has changed its firm name to Moore & Co.

The Kentucky Distillery Company will rebuild its distillery, which was recently burned at Louisville, Ky.

The Adam Scheidt Brewing Company has been organized at Norristown, Pa., with \$125,000 capital stock.

H. C. Ross of Rapid City, Man., has sold out to G. L. Stone, and will go into the grain business at Hamiota.

The firm of Bull & Hill, dealers in grain, lumber and seeds at Milton, Ind., is now styled Bull, Hill & Kays.

The A. T. Schmid Company has been incorporated at Charlotte, N. C., to erect oil mills with \$12,000 capital.

McLaughlin & Co. of Craig, Neb., have been succeeded by the Craig Grain, Lumber and Implement Company.

The firm of Finch Bros., grain and hardware dealers at Garner, Iowa, has been dissolved. T. F. Finch succeeds.

The Cochran Cotton-Seed Oil Company has been incorporated at Philadelphia, Pa., with \$200,000 capital stock.

The Eagle Brewing Company has been incorporated at Chicago with \$150,000 capital by G. F. Fisher and others.

D. Rothschild & Co., grain dealers at Davenport, Iowa, have been succeeded by the Rothschild Grain Company.

A grain elevator will be built at Chattanooga, Tenn., by the Chattanooga Warehouse and Banking Company.

The Hermann Lackmann Brewing Company has been incorporated at Cincinnati with a capital stock of \$600,000.

The Anderson Ginning and Manufacturing Company will build an oil mill and fertilizer factory at Anderson, S. C.

Ranger, Stevens & Co. will build a grain elevator at Farmington, Me. It will be 40x100 feet, and two stories high.

Barnett & Record, grain elevator builders of Minneapolis, are building elevators of from 15,000 to 50,000 bushels' capacity at Hobart, Harlem and Waubay (two), in Dakota; at Sioux City and Cleves, in Iowa; at Brooten, Clement, Kensington, Maple Lake, St. James, Thorsen

Morgan, New Ulm, Smith Lake and Sleepy Eye, in Minnesota, and at Downing, Dak.

The Cedarburg Elevator Company at Cedarburg, Wis., has changed its name to Alex. Berger Commission Company.

The Standard Oil Company has sold its oil mill at Brenham, Tex., to C. H. Schweiss, R. E. Leeper and others.

The Milwaukee Brewing and Malting Company has been incorporated at Pasco, Wash., with a capital of \$25,000.

William M. Cooper of Milmine, Bodman & Co., grain dealers in New York City, N. Y., has withdrawn from the firm.

Frank C. Heald, grain dealer and president of the Baltimore Corn and Flour Exchange, has failed. Liabilities not large.

Mr. Jordan has purchased the Haggerty & Tulloch elevator at Frankford, Ont., and will put same in first-class order.

The Christian Moerlen Brewery Company of Cincinnati, Ohio, will erect a brewery at Birmingham, Ala., to cost \$25,000.

The Limestone Starch Company has been organized at Limestone, Mass., and will run the factory on the co-operative plan.

R. Baker & Son, grain dealers at Victoria, B. C., have received four tons of new fall wheat grown in the Chilliwhack country.

Blum, Baldwin & Girvin, grain and commission dealers at San Francisco, Cal., have been succeeded by Girvin, Baldwin & Eyre.

The Mader & Keip Brewing Company has been incorporated at Chicago with \$100,000 capital, by Charles Mader and others.

The Heidenreich Company are planning a large cleaning elevator, to be erected at Omaha, Neb., for the Fowler Elevator Company.

F. A. Bean of Faribault will erect a grain elevator at St. Louis, Minn. The capital is furnished by Faribault and Duluth parties.

The Pillsbury-Porter people have abandoned the projected 600,000 bushel elevator at Minneapolis on account of bad crops.

The Chattanooga Brewing Company's brewery has been purchased by E. D. Kohn and others, who will enlarge and operate it.

The Farmers' Alliance Elevator Company has been incorporated in Lincoln county, Minn., and is erecting an elevator at Lake Benton.

The United States Starch Works has been incorporated at Waukegan, Ill. Capital stock \$300,000. Incorporators, W. P. Kennard and others.

The Cold Distilled Brandy Trust has been incorporated at Rome, Ga., by W. L. and W. T. Horne of Connecticut, with a capital of \$2,000,000.

The new grain elevator for the Cadwallader Milling Company at Fostoria, Ohio, is nearly completed. Its capacity will be 50,000 bushels.

An English syndicate desires options on the elevators at Buffalo, N. Y. It is said that \$400,000 have been offered for the Wilkeson Elevator.

J. L. Hutches, grain dealer, and R. J. Terwilliger, grain and coal dealer at Garner, Iowa, have formed a partnership styled Terwilliger & Hutches.

The Heidenreich Company of Chicago have just completed a 75,000-bushel grain elevator for the Higgs Commission Company at Kansas City.

The St. Paul and Kansas City Grain Company now has forty houses in Iowa. E. A. Abbott is general manager, with headquarters at Des Moines, Iowa.

The Northern Pacific Railroad has granted sites for elevators at Steele, Sanborn, Sykeston and Cooperstown, N. Dak., to J. Johns of Minneapolis, Minn.

The Price-Current Quotation Company has been incorporated at Chicago, to quote prices and furnish information to merchants. Capital stock \$10,000.

The Lindsay Grain Elevator Company has been organized at Lindsay, Ont., with a capital of \$20,000 to build a grain elevator of 100,000 bushels' capacity.

The Albert Dickinson Seed Elevator at Sixteenth and Clark streets, Chicago, is being overhauled by the Heidenreich Company, elevator builders of Chicago.

Martin, Mitchell & Co. will build an elevator of 12,000 bushels' capacity at Martinville, Man., on the Morris-Brandon branch of the Northern Pacific & Manitoba Railway.

The Omaha Elevator Company has ordered its country buyers to cut down expenses, and some of the elevators will be closed. This is caused by the partial failure of the crops.

The North Dakota Elevator Company, at its annual meeting, elected the following officers: President, A. J. Sawyer; vice-president, G. B. Kirkbride; secretary and

treasurer, P. M. Ranney; general manager, A. G. Chambers. E. S. Bristol of Boston has been added to the directory.

The Highland F. M. B. A. Elevator Company has been incorporated at Highland, Ill. Capital stock, \$7,000. Incorporators, Jones Tonz, Frank Lorenz, Edward Lorenz and others.

R. F. Lyons has completed his elevator at Carberry, Man., and will probably build one at Melbourne, where Joseph Thomson and J. B. Murphy are erecting a grain warehouse.

William M. Druly & Bros., grain dealers at Joliet, Ill., with elevators at Plainfield and Caton Farm, were closed by the sheriff Sept. 2 on a judgment for \$7,653. Liabilities, \$50,000.

The American Elevator Company has been incorporated at Chicago, Ill., to operate grain elevators. Capital stock, \$30,000. Incorporators, James Leon, Chris Steinerand and Joseph Stith.

Sawyer, Wallace & Co., grain commission dealers of New York City, failed Sept. 4. The firm, which was established in 1852, was well known and highly respected in business circles.

The Nebraska Terminal Railroad and Elevator Company has been incorporated at South Sioux City, Iowa, with \$500,000 capital stock. The company will furnish terminal railroad facilities.

The Lake Superior Elevator Company of Duluth, Minn., at its annual meeting elected C. H. Graves, president; R. S. Munger, vice-president; L. A. Marvin, secretary, and George Rupley, treasurer.

Omaha, Neb., will have three new grain elevators—Peavy & Co.'s new elevator of 1,000,000 bushels' capacity, one of equal capacity for the Woodman Linseed Oil Company, and a third somewhat smaller.

The Red River Valley Elevator Company of Duluth, Minn., will be controlled by the Duluth companies. It will have the same officers as the Northern Pacific Company, but will maintain a separate existence.

The W. H. Purcell Company has been incorporated at Chicago to do a malting and grain business, with a capital of \$250,000. The incorporators are W. H. Purcell, Charles H. Purcell and Joseph Guckenheimer.

The Great Northern Railroad Company is laying a second track into elevators H, E, I and F at Duluth, Minn. This will give the company excellent facilities for reaching elevators on the Duluth side of the bay.

The Union Elevator Company of Duluth, Minn., held its annual meeting recently, at which the following officers were elected: President, C. H. Graves; vice-president, M. J. Forbes; secretary, L. A. Marvin; treasurer, George Rupley.

Grain elevators, each of 30,000 bushels' capacity, are being built at Balder, Hilton and Wawanesa, Man., on the Morris & Brandon branch of the N. P. & M., by the Manitoba Elevator Company, of which James Nicoll of Wawanesa is manager.

Brown Bros. Grain Company has been incorporated at Omaha, Neb., with \$200,000 capital, to operate grain elevators in Nebraska and adjoining states. The incorporators are C. T. and G. K. Brown, W. E. Kieker, John Reed and J. W. Bowman.

The St. Paul and Kansas City Grain Company has been incorporated at Minneapolis, with a capital stock of \$150,000. The incorporators are George S. Barnes of Minneapolis, John Q. Adams of St. Paul, and Randall L. Frazee of Frazee City, Minn.

A fight is in progress between grain buyers in Washington. In Portland wheat is quoted at 54 cents, in Seattle and Tacoma 56 cents is offered, while the Pacific Coast Elevator Company at Portland has been calling for wheat at 61½ cents per bushel.

The Pacific Elevator Company has been incorporated at Minneapolis, Minn., with a capital stock of \$150,000. The incorporators are Henry Poehler, Thomas Welch, August F. Poehler, Earnest L. Welch and Alvin H. Poehler, all of Sibley county, Minn.

The Northern Pacific Railway has given a free excursion to representative business men from Winnipeg, Portage la Prairie and Brandon, to Duluth and St. Paul. The party went to see the facilities of the Northern Pacific Railway for handling Manitoba's export grain.

The London Investment Company of London, Eng., is reported to have purchased the plants of the Rudolph Brand Brewing Company, United States Brewing Company, K. G. Schmidt Brewing Company, Weiss Brewing Company, and the Bartholomae & Roesing Brewery, all at Chicago.

The Requa Bros. elevator at Forty-fourth street and Wabash track, Chicago, is now nearly completed, and will probably be the most complete and modern cleaning elevator in Chicago. It is being built by the Heidenreich Company of Chicago, and is equipped with two Champion Oat Clippers and one Monitor Cleaner.

Mr. Hayes, the assignee of W. F. Meader & Co. of Minneapolis, Minn., which firm failed three years ago, has sued Bryant Stephens, Meader's father-in-law, for \$7,000. Hayes claims that Meader & Co. owed Stephens \$7,000 on some notes, that these notes were paid just before the failure, and that this was done to give a prefer-

ence to Stephens. He asks that payment be declared void, that the sum may be recovered for Meader's creditors.

Barnett & Record, grain elevator builders of Minneapolis, Minn., have contracted to build a grain elevator of 1,000,000 bushels' capacity at Paynesville, Ohio, for the Pittsburg & Western Elevator Company on the tracks of the Baltimore & Ohio Railroad, to which it will be leased. It will be completed on or before Feb. 1.

A large starch factory is being built at Hammond, Ind., near Chicago. It will be completed by Oct. 1, and will consume 3,500 bushels of corn daily. The proprietors are Messrs. Stein, Hirsh & Co. Between the factory and the river a grain elevator of 100,000 bushels' capacity is being built. It will be 94 feet long, 40 feet wide and 85 feet high.

The old Rock Island Elevator "B" in Chicago, of 1,000,000 bushels' capacity, is being thoroughly remodeled and equipped with new machinery, by the Heidenreich Company, elevator builders of Chicago. The entire elevator is supported on screws while the old foundation is being removed and a new one put in. The roof of the cupola is being raised one story on jack-screws while an intermediate floor is inserted.

Peter Sloofs, agent for Cargill Bros.' elevator at Everett, N. Dak., was arrested Sept. 2 and taken to Fargo, charged with embezzlement from the elevator company. It is alleged he appropriated the proceeds of 107 bushels of wheat, 80 bushels of corn, and 790 bushels of oats, amounting to about \$300. It is said that he acknowledged taking \$150. He was bound over to the grand jury. His arrest was secured by the Fidelity & Casualty Company, which had furnished his bond to the elevator company.

The D. R. Putnam estate has sold its elevators and warehouses to the following firms: To Bender Bros. & Co., elevators at Garner, Britt, Rock Valley, Bridgewater, Emery, Alexandria, Mitchell, Plankinton, White Lake, Kimball, Menno, Scotland, Tyndall; and warehouses at Wesley, Algona, Estherville, Spirit Lake, Hartley, Sanborn, Hull, Inwood, Worthing, Lennox, Parker, Marion Junction, Mount Vernon, Pukwana, Freeman, Springfield, Running Water, Lesterville and Eden. All these houses are located on the Iowa division of the Chicago, Milwaukee & St. Paul Railroad. Those at Bonilla, Tulare, Redfield, Ashton, Mellette, Warner, Westpool and Frederick to W. H. Wheeler of Aberdeen, S. Dak. To L. N. Loomis of Alpena, those at Letcher, Woonsocket, Alpena and Virgil, Dak. To S. S. Cargill of Minneapolis, Minn., those at Bath, Ipswich, Mina and Eureka. The house at Wolsey to the Farmers' Alliance, and the one at Ellendale to Jordan, a miller at Janesville, Wis.

Press Comment.

NO ELEVATOR TRUST.

There is renewed talk in a quiet way about an elevator trust in this city. An impression prevails that such a trust already exists, but it is a mistake. There is a sort of an alliance, offensive and defensive, among elevator proprietors, but no trust that involves solidification of control or that can compel uniformity of action.—*Chicago Times*.

EFFECT OF BUCKET SHOPS.

His [Ben Butterworth's] last argument even against bucket shops—and these are much to be despised—is weak and puerile. He says they aid the decline in farm products by selling, and that their effect is to lower prices. They have about as much effect on general values as a private game of poker between Congressmen has on the turn of the red or the black at Monaco. If the dealer in one of these shops finds fighting the margins is unprofitable, he is just as likely to buy as to sell to hedge himself. Unfortunately, he generally does neither if the pot is large enough to encourage the theft of it.—*Baltimore Journal of Commerce*.

Chicago received 3,970 cars of winter wheat during August, against 6,840 cars in the preceding August. Of this two cars graded No. 1; 2,064 cars No. 2; 1,497 No. 3; 320 No. 4, and 87 no grade, against 1,749 cars of No. 2; 4,409 No. 3; 611 No. 4, and 71 no grade during August, 1889.

Recent advices from Huron, S. Dak., state that the prospect for large crops throughout South Dakota has prompted the railroad commissioners of that state to give attention to elevator privileges. A number of elevator privileges have been asked and readily granted by railroad and elevator companies, particularly along the Chicago & Northwestern lines. The commission has also taken steps for the building of switches and tracks at points where connections with the Great Northern line and other roads are desirable.

The grain handled at Duluth during the crop year ended Aug. 31, 1890, amounts to 2,070,099 bushels more than that of the crop year ended Aug. 31, 1886, heretofore the banner year for the movement of wheat toward the head of the lakes. The total receipts of grain for the crop year are 22,510,060 bushels, and the shipments 21,560,039 bushels. The amount of grain handled in Duluth in 1885 was 28,900,000 bushels; in 1886, 42,000,000 bushels; in 1888 the amount fell to 21,000,000 bushels, and in 1889 the total was 31,000,000 bushels.

STORAGE RATES AT CHICAGO.

The proprietors of the public elevators at Chicago have published the following notice:

The agreement between the Board of Trade and elevator proprietors having been carried out, the undersigned hereby give notice that the rates of storage on grain in our warehouses shall be as follows from July 1, 1890, to June 30, 1891:

On all grain received in bulk and inspected in good condition, three-quarters of one cent per bushel for the first ten days or part thereof, and one-third of one cent per bushel for each additional ten days or part thereof.

After the first day of December, 1890, upon grain in good condition, storage will be at the above rates until four cents per bushel shall have accrued, after which time no additional storage will be charged until the first day of May, 1891.

All amounts which have been collected in excess of the above rates will be refunded by us on application.

To POULTRY RAISERS.

The Complete Poultry Manual is a neat little work which is well worth reading by those interested in poultry, or by boys or girls who want to turn an honest penny. The price is only 25 cents. Sent postpaid on receipt of price. Address

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Situation as foreman or manager in grain elevator. Have had several years' experience in the elevator business. Am not afraid of work. I understand the handling of machinery, bookkeeping, and all the details pertaining to the business. Best reference as to honesty, sobriety and good character. Fully competent of taking charge where a reliable man is wanted. Address

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Of 10,000 bushels' capacity; Barnard & Leas Sheller and Cleaner; one French burr, 42-inch, with bolt; one feed grinder; Atlas Engine, 20-horse power, boiler, 25-horse power; stone engine room; office scales, barn and coal sheds all on my own ground. Best corn county in the state. Office on business street. Address

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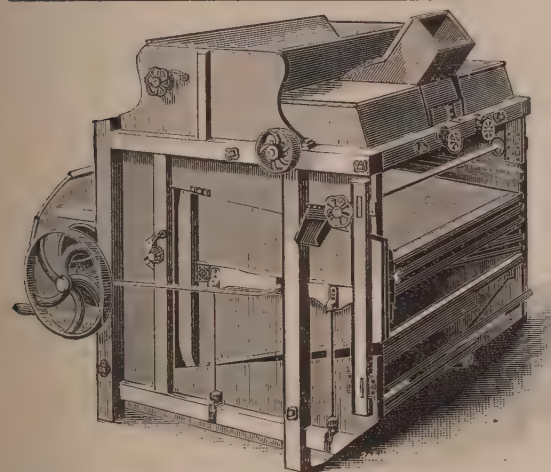
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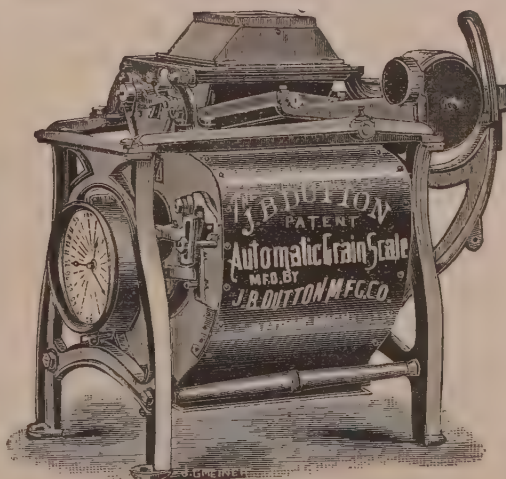
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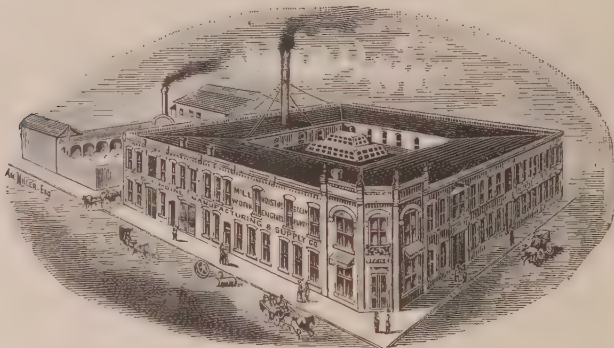
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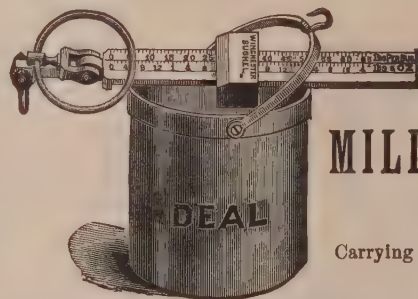
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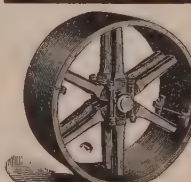


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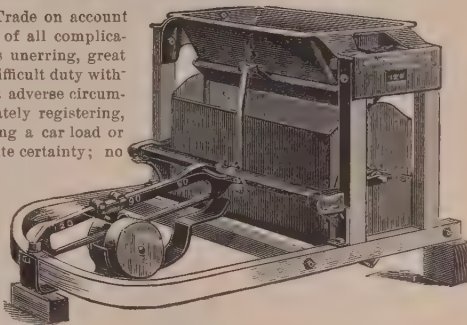
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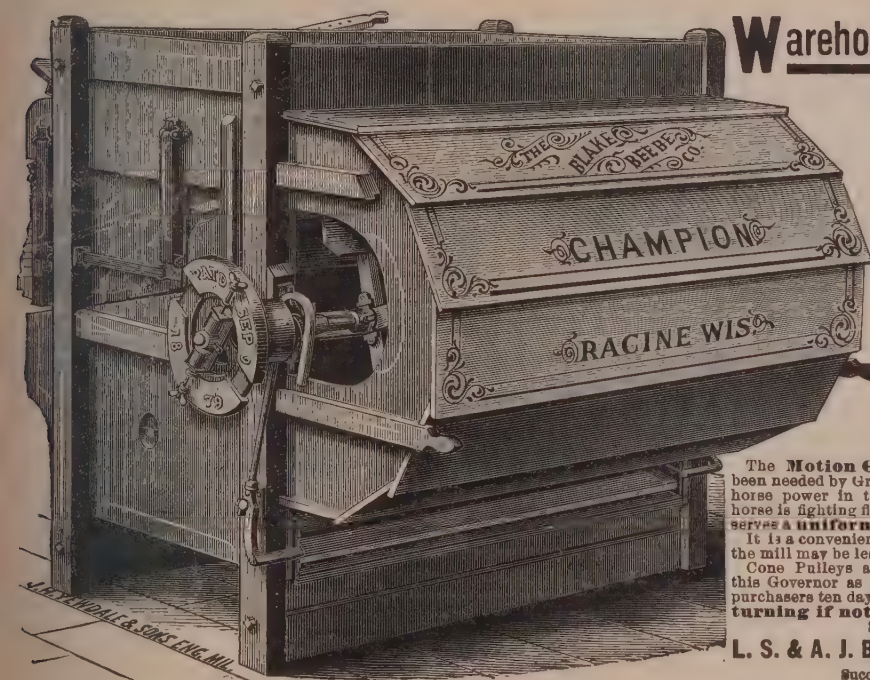
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—CAPACITY—

600 BUSHEL
PER HOUR.

WE MAKE

Farm Mills and
Seven Different Sizes
—FOR—

**Warehouses
and Elevators**

More of them in actual and satisfactory use than any other kind.

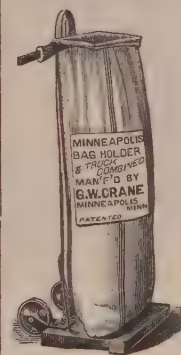
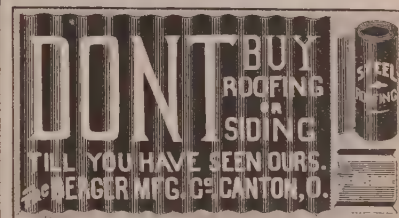
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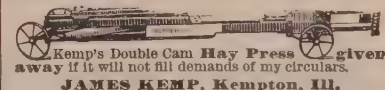
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A combination costing no more than a common truck. Can be used without the truck or attached to a platform scale. Trial orders and correspondence solicited from responsible parties. Adjustable to any size sack.

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Kemp's Double Can Hay Press - Given away if it will not fill demands of my circulars.

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SUITABLE FOR ELEVATORS.

FOR THE FIRST TIME INTRODUCED IN THE UNITED STATES.

Over 4,000 in use in Europe,

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ADOPTED BY SEVERAL EUROPEAN GOVERNMENTS AS

A STANDARD,

USED FOR THE ASSESSMENT OF CORN TAXES AND DUTIES IN GERMANY

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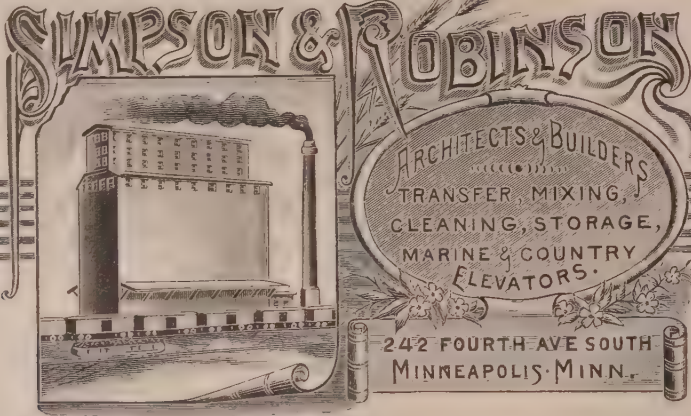
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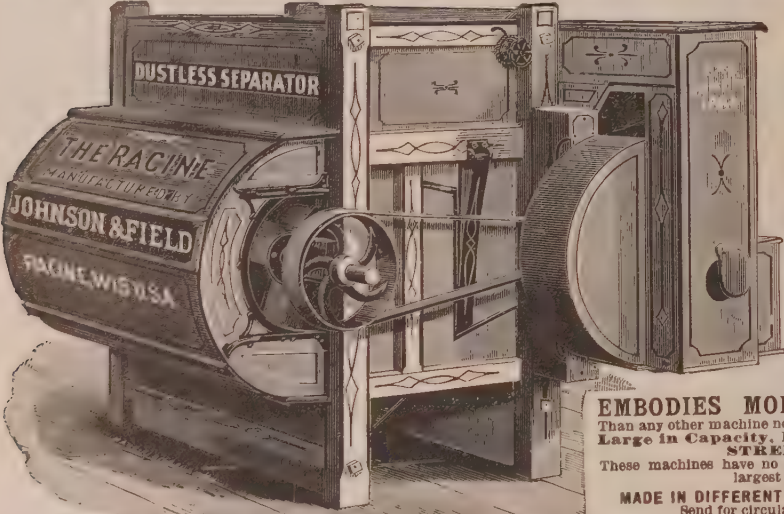
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JOHNSON & FIELD CO.



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 THE RACINE
 MANUFACTURED FOR BY
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MANUFACTURERS OF THE

DUSTLESS GRAIN SEPARATOR

EMBODIES MORE POINTS OF EXCELLENCE Than any other machine now offered for similar purposes. **Light Running, Large in Capacity, Perfect in Separation, and with GREAT STRENGTH and DURABILITY.** These machines have no equal. ADOPTED and INDORSED by many of the largest Mills and Elevators in the country.
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 LIME EXTRACTING
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Is the ONLY LIME-EXTRACTING HEATER that will prevent Scale in Steam Boilers Removing all impurities from the water before it enters the Boiler,
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 OVER 8,000 of them in daily use

This cut is a facsimile of the appearance of a No. 3 Heater at work on ordinary lime water, when the door was removed after the Heater had been running two weeks. Illustrated Catalogues.

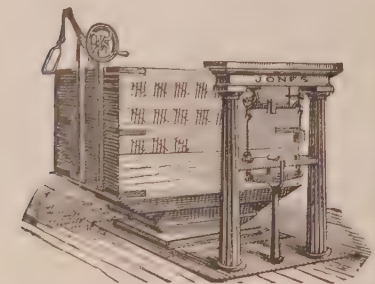
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Commercial Calculator.
 WE FURNISH

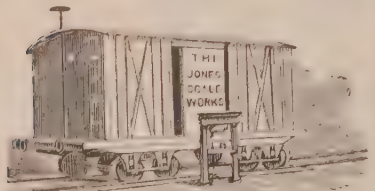
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RAILROAD Track SCALES.

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Roller and Detachable CHAIN BELTING.
 DETACHABLE in Every LINK.
 Especially Designed for
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 —For Handling—
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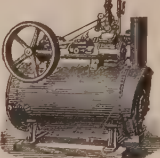
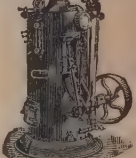
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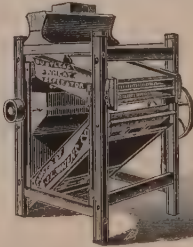
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 Upright and Horizontal, Stationary and Semi-Portable.
 ALL SIZES UP TO SIXTEEN HORSE POWER.
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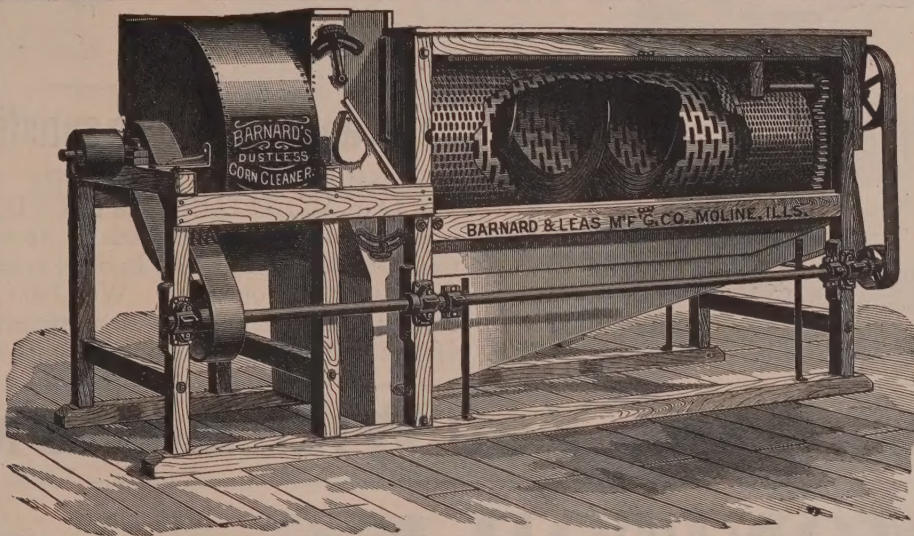
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COMPLETE ELEVATOR OUTFITS.

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New Horizontal
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Messrs. BARNARD & LEAS MFG. CO.

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GENTLEMEN—Inclosed find draft for \$130.00, payment invoice Sheller. Think we have the best Sheller in the market. We have two of your Shellers in use. Would put in the third one if it were not so late in the season. Think we could save corn enough to soon pay for another one. Anyone making inquiry about Shellers, REFER THEM TO ROYER & COON.

Respectfully yours,

ROYER & COON.

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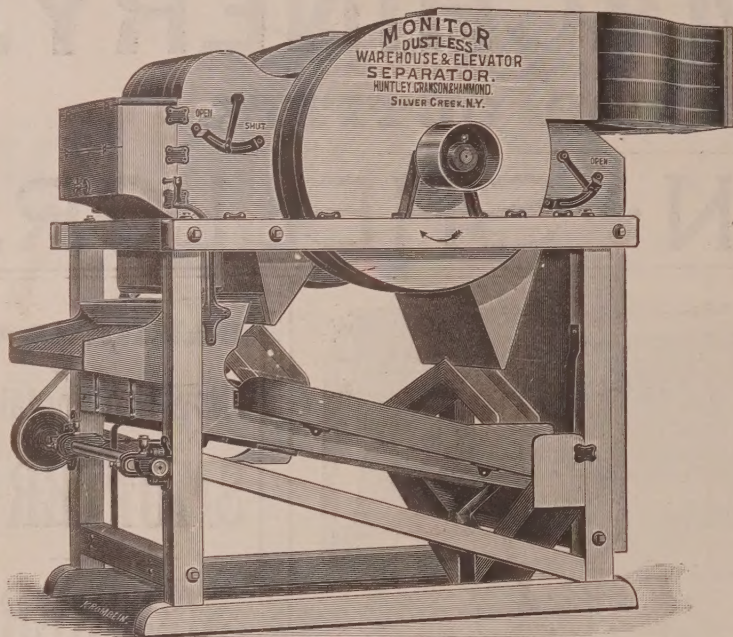
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Not in Price, but in the Estimation of Users.



THE MONITOR SEPARATOR.

High Efficiency,

Perfect Regulation,

Superior Workmanship.

Positive Automatic Feed,

Thoroughly Controlled

Air Current.

Try it and you will be satisfied with no other.

Our MONITOR SEPARATOR is now in successful operation in a large number of prominent elevators, and the class of work done by it is attracting much attention and favorable comment. We claim to have the best machine for the purpose ever manufactured, and the testimony of the many users substantiate our claims in every detail.

INVESTIGATE AND YOU WILL BE CONVINCED.

THE MONITOR OAT CLIPPER

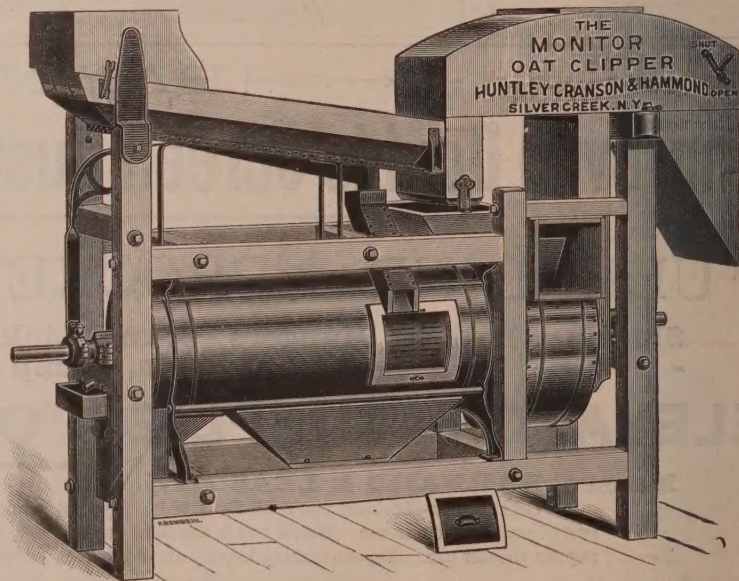
Will Separate, Clip and Polish Oats.

WORTHY OF A PLACE IN EVERY ELEVATOR.

THOROUGH WORK, LIGHT RUNNING, DUSTLESS.

The clipping of oats is now considered a necessity by all elevator men, and in offering our MONITOR CLIPPER to do this work, we know that we offer a machine superior to anything heretofore in use, and a machine that has received the approval of every one who has used it, or seen it in operation.

If you are interested in a machine of this kind you will be benefited by writing for full particulars.



A complete line of our machines can be seen and full information obtained at our

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Write for Circular, Prices, Etc.

HUNTLEY, CRANSON & HAMMOND,
SILVER CREEK, N. Y., U. S. A.

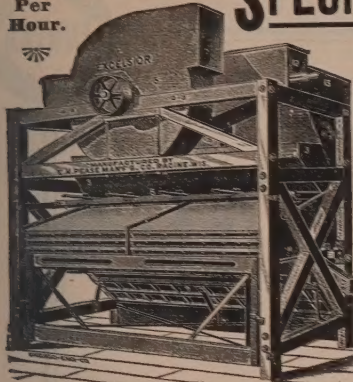
B. F. RYER, { 63-65 SOUTH CANAL ST., } Chicago, Ill. HENRY SIMON, { 20 Mount Street, MANCHESTER, ENG., }
Manager Western Branch. GENERAL AGENT FOR EUROPE.

Four Sizes from 300
to 2000 Bu. Capacity
Per
Hour.

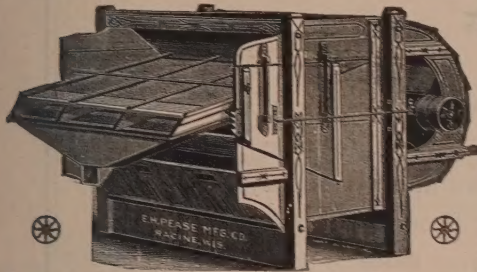
SPECIAL GRAIN HANDLING MACHINERY

—FOR—
GRAIN ELEVATORS
MILLS.
MALT HOUSES

—AND—
BREWERS.



Excelsior Dustless Elevator Separator.



Several sizes, Styles and Capacities of End-Shake, and Side-Shake Warehouse Mills.



"HERCULES" POWER CAR PULLER.

CAUTION!

DO NOT BE DUPED
into buying INFERIOR
CLIPPERS by misrepres-
entations of our
Jealous Competitors.

THE MAKER

Successful Clipper

does not need to resort to
such measures to gain trade.
We will give Undoubted
evidence of the

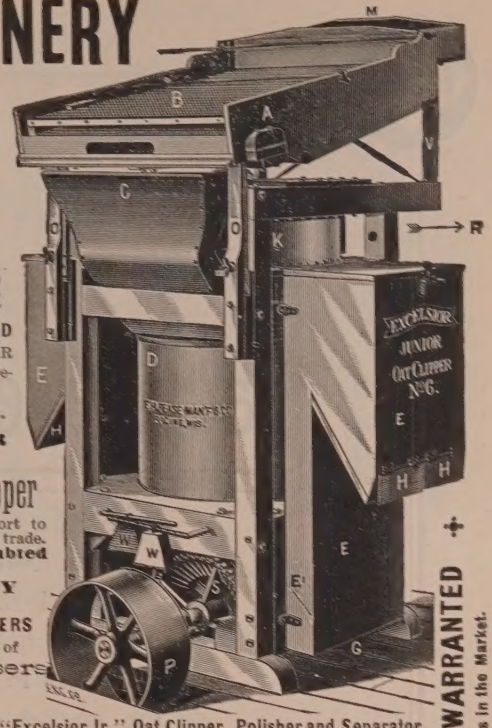
SUPERIORITY

OF THE

EXCELSIOR CLIPPERS

over the signatures of

A Host of Users



"Excelsior Jr." Oat Clipper, Polisher and Separator.

PLENTY MORE TESTIMONIALS.

Letters similar to sample below, on hand for inspection of Buyers.

"Suppose you Write us for Particulars."

SENECA, ILL., May 8, 1890.

E. H. PEASE MFG. CO., Racine, Wis.

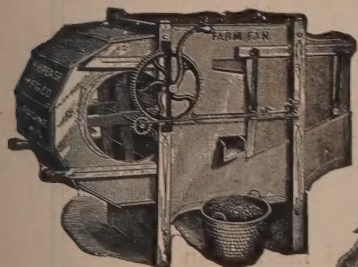
GENTLEMEN: In December, 1888, we bought one of your No. 8 "Excelsior" Combined Oat Clippers, Separators and Graders, and have clipped at least 250,000 bu. of oats with it without a cent of cost for repairs, and consider it one of the most valuable pieces of machinery in our elevator. Before buying, we examined other clippers in operation, but could find none we thought compared with the Excelsior in capacity or work. We have no trouble to raise the governing weights upon the regulating levers. A few days ago we went to see a clipper work and judging from the work it was doing it is a total failure as an oat clipper.

We would not exchange our Excelsior Clipper for a 10-acre lot of clippers. We have yet to see a machine that will come up to your No. 8 Excelsior in quality or capacity. Our machine has done better than you claimed for it and paid for itself long ago.

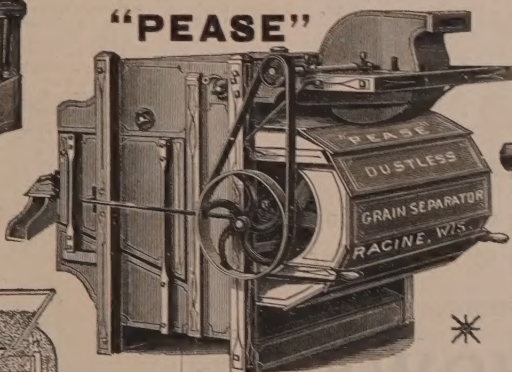
We tested our clipper a few days ago by clipping 3,500 bu. of oats by actual weight, with less than 1-2 lb. waste per bu. We also shipped two cars of oats from same bin to same commission merchant in Chicago, viz.: One car clipped and one car not clipped, we got 1-2 cents per bu. more for the clipped than the unclipped oats (1-2 cent per bu. covers cost of clipping and waste) ***** etc.

Yours truly,

HOGAN & NEILSON.



ALL SIZES AND STYLES OF
"Pease" Farm Fanning Mills.



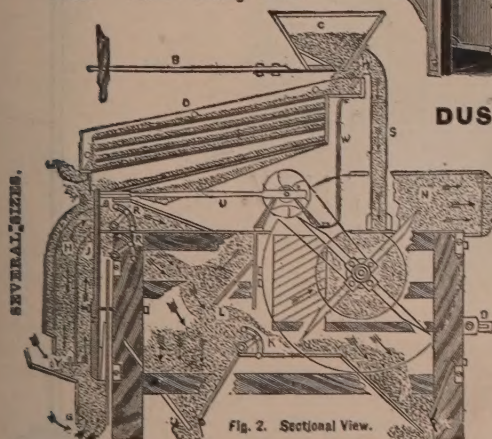
DUSTLESS SEPARATORS.

OUR SPECIALTIES

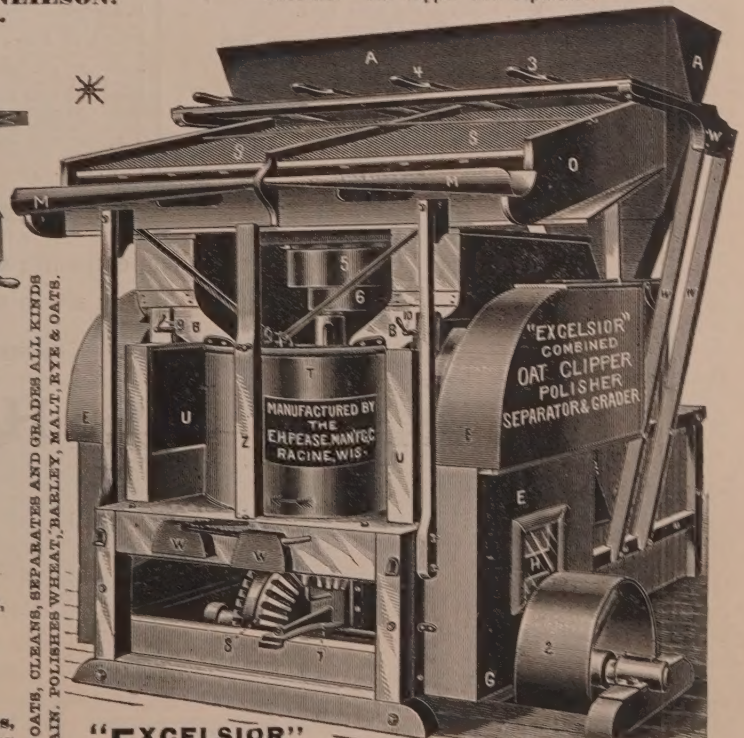
—ARE—
Oat Clippers,
"Pease" Farm Fans,
"Pease" and "Wells"
Warehouse Fanning Mills,
"Pease" Dustless Separators,

EXCELSIOR

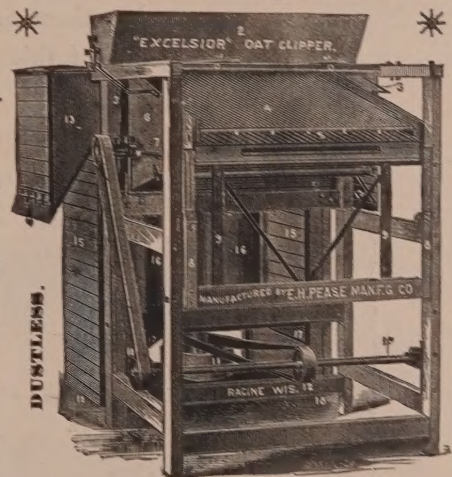
Receiving Separators,
Grain Graders, Cleaners
and Polishers, Car Pullers,
Bag Trucks, Warehouse Trucks,
ELEVATOR SUPPLIES,
Etc., Etc.



Excelsior Dustless Separator and Grader.



"EXCELSIOR" COMBINED OAT CLIPPER AND SEPARATOR, GRADER AND POLISHER.



"Excelsior" Oat Clipper and Separator.

With same Power, Conditions of Grain, and other like Circumstances.

THESE MACHINES ARE FULLY WARRANTED
To Excel any Other Similar Machines of like sizes in the Market.

E. H. PEASE MFG. CO., RACINE, WIS., U. S. A.



Facts are Stubborn Things.

The Eureka Oat Clipper, we emphatically claim is the best on earth, and, in fact, is the only one upon whose operation entire and perfect reliance can be, at all times, and under all conditions, placed. There are more Eureka Oat Clippers in use than of all other kinds, and they haven't been very long on the market. Here's a partial list of users. We'll give you more if you want them, but these are sufficiently widely scattered to indicate how general is the adoption of this incomparable machine:

Chicago Grain Co., Chicago, Ill.
Middle Division Elevator Co., Chicago, Ill.
Shellabarger M. & E. Co., Cerro Gordo, Ill.
Faist, Krauss & Co., Milwaukee, Wis.
Iowa Grain and Produce Co., Oskoda, Iowa.
Albion Milling Co., Albion, Mich.
Gifford & Manley, Grinnell, Iowa.
Botsford Elevator Co., Port Huron, Mich.
Grand Trunk Elevator Co., Port Huron, Mich.
R. F. Hill & Co., Burlington, Iowa.
Chicago & Pacific Elevator Co., Chicago, Ill.
Waldron & Walker, Jackson, Mich.
Gillett & Hall, Detroit, Mich.
M. A. Morrow, Olathe, Kan.
G. F. Chessman, York, Neb.
T. A. Stansbury, Saybrook, Ill.
Homer Relyea, Desoto, Iowa.
F. L. Bente, Bozeman, Montana.
C. B. Chatfield & Co., Bay City, Mich.
Minter Bros., Kansas City, Mo.
Capital Oat Meal Mill Co., Des Moines, Iowa.
Finch & Hayward, Davenport, Iowa.
Brackett & Stoddart, Marshalltown, Iowa.
K. K. Liquin, Dysart, Iowa.
McMorran & Co., Port Huron, Mich.
Capital Elevator Co., Topeka, Kan.
Dallas Elevator Co., Dallas, Texas.
North Texas M. & E. Co., McKinney, Texas.
E. C. Cowles, Storm Lake, Iowa.
J. Bannister & Co., Peoria, Ill.
W. R. Vanderveer, McCool Junction, Neb.
Wm. Bender, Ida Grove, Iowa.
Jno. A. Hatch, Mokena, Ill.
S. C. Bartlett & Co., Peoria, Ill.
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E. S. Easton & Co., Peoria.
Kearney M. & E. Co., Elm Creek, Neb.
Brunsing & Co., Beatrice, Kan.
White & Young, Stillman Valley, Ill.
Bartlett, Kuhn & Co., Evansville, Ind.
Graves & Johnston, Seneca, Ill.
J. W. Hawn & Co., Wichita, Kan.
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Harper, Fricke & Co., Iantha, Mo.
Beatrice Oat Meal Co., Beatrice, Neb.
Weir & McMillan, Peterson, Iowa.
Weir & McMillan, Everly, Iowa.
F. H. Peavy & Co., Minneapolis, Minn.
Northern Grain & Mercantile Co., Ashland, Wis.
W. L. Luce, South Elmhurst, Ill.
Hagerty, Hunter & Co., Peoria, Ill.
W. L. Mathews, Marlette, Mich.
D. N. Dunlap, Massena, Iowa.
Norton & Co., Lockport, Ill.
Hill Bros., Chicago, Ill.
D. W. Patton, Manning, Iowa.
Marsh & Wood, Normaltown, Ill.
Webster Mfg. Co., Chicago, Ill.
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P. B. Sanborn, Port Huron, Mich.
S. S. Sprague & Co., Tylersville, Ill.
T. E. Malden, Manson, Iowa.
H. Lawbaugh, Stuart, Iowa.
Low & Bright, Cumberland, Iowa.
Eikenberry & Co., Charlton, Iowa.
City Elevator Co., New Brighton, Minn.
J. C. VanNatta, Montmorenci, Iowa.
Stewart & Moeller, Reinbeck, Iowa.
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The best being always the cheapest, and popularity being indubitable evidence of merit, can you afford to buy anything but the Eureka Oat Clipper?

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Sole Manufacturer,

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